NOV 26 1923
Medical Lib.

Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. Published Weekly. Price 1s.

THE
MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—10TH YEAR. SYDNEY: SATURDAY, OCTOBER 20, 1923. No. 16.

Surgical Instruments

We are pleased to announce that good general stocks of our Surgical Instruments have arrived and that regular supplies are now coming forward. Members of the Profession are cordially invited to visit our Show Rooms.

Allen & Hanburys (Australasia) Ltd.

Instrument Makers to H.M. Army and H.M. Navy

AUSTRALASIAN BRANCH:

B.M.A. BUILDING : Elizabeth Street, Sydney

Harbottle, Brown & Co., Limited.

Wine and Spirit Merchants

21, LANG STREET, SYDNEY.

Telephones: City 148 (2 lines).

Pommery and Greno (1915 Vintage) Champagne

"G.K." (Glenkinchie) Whisky

(PRODUCE OF SCOTLAND)

Red Heart Rum

(FINEST OLD JAMAICA)

Lowndes Rum

(WEST INDIA)

Burke's Guinness' Stout

E. & J. BURKE, LIMITED (DUBLIN, IRELAND).

ALL BRANDS OF WINES AND SPIRITS SUPPLIED IN ANY QUANTITY FROM TWO GALLONS OR ONE DOZEN QUARTS.

KNOW THIS!

All that prudence can suggest or reason demand for the safeguarding of your estate is fully assured when you have appointed as your trustee

Permanent Trustee Company of N.S.W. Ltd.

Incorporated 1888 by Special Act of Parliament to act as

TRUSTEE—EXECUTOR—ATTORNEY—AGENT.

CAPITAL—Subscribed, £1,000,000; Paid up, £110,000; Uncalled, £890,000.

Because this Company covers the whole field of duties involved in efficient trusteeship its services are commended to medical men.

Under the Company's Special Act of Parliament the whole Capital and Assets of the Company is liable for the protection of clients' interests.

The Directors, Manager and Assistant Manager are also personally liable for the efficient administration of all estates entrusted to the Company.

Permanency is assured—the Company cannot travel, disappear or die—it cannot indulge in hazardous speculation. Its officials are always available for advice upon trust matters.

Write Department E for Booklet.

DIRECTORS:

ALFRED G. MILSON. F. N. YARWOOD (Chairman) O. E. FRIEND

JAMES MOIR THOS. BUCKLAND

A. P. Bedford, Hon. Director.

J. W. BARNES, Manager. E. V. T. WHITTLE, Assistant Manager.

N. L. SHAW, Secretary.

25 O'Connell Street, Sydney

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—10TH YEAR. SYDNEY: SATURDAY, OCTOBER 20, 1923. No. 16.

Table of Contents

PAGE.

ORIGINAL ARTICLES—

"Blood Grouping," by F. J. CLARK, M.B., B.S., .. 401
"Some Problems in Hookworm Disease at the State Orphanage, Townsville," by R. W. CILENTO, M.D., B.S., D.T.M. & H. 403
"A Note on the Occurrence of Lipase in the Urine in Two Cases of Acute Pancreatitis with Fat Necrosis," by GORDON CAMERON, M.B., B.S. .. 408
"A Popular Fallacy," by J. G. EDWARDS, M.B., Ch.M. 411

REPORTS OF CASES—

"Puerperal Infection: Spontaneous Fæcal Fistula," by ARTHUR J. NYULASY, M.R.C.S... 411
"Gastric Spasm," by ARTHUR J. NYULASY, M.R.C.S. 412
"Pagetoid or Erythematoid Basal Cell Epithelioma," by NORMAN PAUL, M.B., Ch.M., and KEITH INGLIS, M.D., Ch.M. 412

REVIEWS—

Domiciliary Treatment of Pulmonary Tuberculosis 414
Pharmacology and Therapeutics 414
Practical Morbid Histology 414

LEADING ARTICLES—

Medical Officers of Health 415

CURRENT COMMENT—

Heteromorphosis 416

PAGE.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE—

Dermatology 418
Radiology 419

BRITISH MEDICAL ASSOCIATION NEWS—

Scientific 420
Nominations and Elections 424

UNIVERSITY INTELLIGENCE—

The University of Sydney 424

POST-GRADUATE WORK—

Lectures in Melbourne 424

CONGRESS NOTES—

The Australasian Medical Congress (British Medical Association) 425

PROCEEDINGS OF THE AUSTRALIAN MEDICAL BOARDS—

New South Wales 425
Victoria 426

MEDICAL APPOINTMENTS 426

MEDICAL APPOINTMENTS VACANT, ETC. 426

MEDICAL APPOINTMENTS: IMPORTANT NOTICE 426

DIARY FOR THE MONTH 426

EDITORIAL NOTICES 426

BLOOD GROUPING.[1]

BY F. J. CLARK, M.B., B.S. (Melbourne),
Medical Superintendent, Fremantle Hospital.

I MUST first of all confess that I am not wholly responsible for the idea of this demonstration. The responsibility rather rests with Dr. Dale, as it was his suggestion that a demonstration of "blood grouping" might be of benefit to the profession in this State.

Until quite recently there were no facilities in this State that I am aware of, for the rapid and simple methods of testing the blood of prospective donors for transfusion.

The present movement appears to be an appropriate one, as a recent issue of THE MEDICAL JOURNAL OF AUSTRALIA contained an appeal from a Victorian doctor for stocks of group sera to be made available for general use. Such stocks are already obtainable in Melbourne from the Walter and Eliza Hall Institute, at the Melbourne Hospital and chiefly owing to the work of Dr. Dale this State is not far behind, as ample stocks are held at present in the laboratory at the Health Department.

It is the primary object of this paper to advertise this fact among the profession in Western Australia, so that blood may be grouped easily and rapidly and accurately whenever a transfusion is to be done.

I am afraid that many of you will find that I am repeating what you already know, much of which has appeared in recent journals, but there may be be some not quite so familiar with the theory and technique of blood grouping.

The idea of transferring blood from one person to another is a very old one and the history of transfusion is not without its humorous aspects.

It is nearly four hundred years since the first authentic case in which the operation was attempted. The year was 1492 and the patient Pope Innocent VIII. A Jewish physician, deciding that the Pope, then a man of sixty years, needed some of the blood of youth, attempted to transfer the blood of three young men into his veins. The history of the case ends with the bald statement: "The three donors died and the Pope was not saved." Two hundred years later Pepys in his diary tells of "a very pretty experiment": "The blood of a little dog having been let out till he died into the body of another." He continues: "This did give occasion to many pretty wishes, as of the blood of a Quaker to be let into an archbishop and such like."

[1] Read at a meeting of the Western Australian Branch of the British Medical Association on August 15, 1923.

From then on through many years the operation waxed and waned. Sometimes human blood was used, sometimes the blood of animals. The results on the whole were very bad and many times the procedure was emphatically condemned only to be revived again later.

It was not until the beginning of this century that anything like order was reached and a careful attempt made to place the operation on a sound footing both theoretically and practically. It appears that the credit must be divided between Landsteiner and Shattock for the first attempt to explain accurately the incompatability between the blood of different individuals and incidentally to explain some of the catastrophes which had thrown the operation into disrepute.

It was discovered that certain sera possessed the property of agglutinating red blood corpuscles and that later hæmolysis resulted.

Landsteiner divided the blood of humans into three classes according to its agglutinating properties and this classification stood, until in 1910 Moss found that four groups were necessary to account for the phenomena he had observed.

Moss's classification has been in use till the present day and is explained by "Landsteiner's law of iso-agglutination."

This law states that there are two agglutinins present in human blood, usually designated *A* and *B*. Also there are two agglutinogens designated *a* and *b*. Each agglutinin is specific and acts only in the presence of the corresponding agglutinogen.

Group I. contains both agglutinogens and no agglutinin.

Group II. contains agglutinogen *b* and agglutinin *A*.

Group III. contains agglutinogen *a* and agglutinin *B*.

Group IV. contains no agglutinogen and both agglutinins *A* and *B*.

Group I. containing no agglutinin, its serum does not agglutinate the corpuscles of any group and hence individuals of this class have been termed "universal recipients."

Group II. containing agglutinin *A* and agglutinogen *b*, its serum agglutinates the corpuscles of both I. and III.

Group III. containg agglutinin *B* and agglutinogen *a*, agglutinates both I. and II.

Group IV. contains both agglutinins, but no agglutinogens and its corpuscles, therefore, will not be agglutinated by serum of any of the other groups. Hence individuals of this group are spoken of as "universal donors."

From this information it is possible to draw up a table of the reactions which will take place when the serum of one group is mixed with the corpuscles of another (Moss's table).

It is found that Group IV. is the commonest, about 45% of people belonging to this group. The next most common is Group II. Group III. is not very common and Group I. is uncommon.

Moss's Table.

Serum.	Corpuscles.				Receive from Groups.
	I.	II.	III.	IV.	
I. ..	0	0	0	0	I., II., III. or IV.
II. ..	+	0	+	0	II. or IV.
III. ..	+	+	0	0	III. or IV.
IV. ..	+	+	+	0	IV.

Since the two middle groups—II. and III.—each contain an agglutinin and an agglutinogen, the sera of these groups are used for testing purposes. These sera are united with a suspension of corpuscles from a person of unknown group and from the occurrence or absence of agglutination the group to which the corpuscles belong can be ascertained.

The following table shows the interpretation of the reactions taking place.

Test Table.

Serum of		Group to which Corpuscles Belong
Group II.	Group III.	
+	+	I.
0	+	II.
+	0	III.
0	0	IV.

These agglutinating properties are not present in the blood at birth and are supposed not to be fully established till the second year of life.

The grouping of the blood of parents may be and often is quite different from that of their children and similar differences may exist between the blood of the various children themselves.

The publication of recent work by Guthrie and Huck goes to show that the present accepted grouping of Moss does not account sufficiently for all the phenomena which have been observed during blood grouping tests. A summary of their interpretation of the experiments they have conducted will be found in The Medical Journal of Australia of July 21, 1923. They appear to have proved that there are at least three agglutinins and three agglutinogens in human blood instead of two of each as was previously supposed and they are of the opinion that this fact accounts for some, at least, of the reactions which have been observed during and after transfusions for which the blood of donor and recipient had been grouped according to Moss's classification.

Their work, however, is as yet incomplete and no simple method has been devised for classifying blood into the groups they suggest. As an advance in the knowledge of the agglutinating properties of

blood this work is distinctly valuable, but it is to be hoped that the uncertainty cast on Moss's classification will not throw it out of use till a better one is devised and consequently diminish for the time being the frequency of blood transfusion.

With regard to the slight rigor and fever which follow transfusion occasionally and which are atrributed by Guthrie and Huck to incompatability of the samples of blood, it may be said that a similar reaction frequently occurs following intravenous injections of various sera and sometimes of saline solution.

Moss's grouping then must stand for the time being, the number of cases in which it has proved serviceable justifying its use.

The technique is as follows:

A few drops of blood from the finger are mixed with about 0.5 cubic centimetre of 3.5% sodium citrate solution in a test tube and thus an emulsion of red corpuscles is formed. A drop of each of Groups II. and III. sera is placed at either end of a microscope slide and with each of these drops a little of the corpuscle emulsion is mixed and the slide tilted to and fro.

Agglutination, if it is going to occur, will be visible within a couple of minutes and is unmistakeable. The corpuscles clump together and give the appearance of fine brick-dust floating in the clear serum. Some reactions are more pronounced than others, but in every case it is best to go by macroscopical appearances rather than microscopical.

If agglutination occurs in both groups the corpuscles belong to Group I. If it occurs with Group II. serum and not with Group III. serum, the corpuscles belong to Group III. If it occurs with Group III. serum and not with Group II. serum, the corpuscles belong to Group II. If no agglutination occurs the corpuscles belong to Group IV.

Usually the blood of both donor and recipient will be tested, but if the condition of the recipient is such that the least possible disturbance is desirable and a proved Group IV. donor is available, the testing of the recipient's blood might safely be omitted.

In a recent article Tebbutt advocates Brem's method of group testing. By this method the sera and corpuscles of Group II. are tested against the sera and corpuscles of recipient and donor. No Group III. serum is used.

In this method the corpuscular emulsion must be fresh, as it is my experience that the corpuscles lose their property of being agglutinated more rapidly than the serum loses its power of agglutinating.

The "two sera" method of Moss is the more convenient except under special circumstances.

The remaining method consists in the direct testing of donor against recipient. Donor's corpuscles are tested against recipient's serum and *vice versa*.

This probably is the best method of all, but requires far more time than the grouping methods and in cases of extreme urgency might cause fatal delay.

I need not mention that syphilis and various parasitic diseases, such as malaria, may be transmitted by transfusion and must always be tested for, the one by the Wassermann test, the other by the past history of the donor.

It is important that the testing sera should be as fresh as possible. Kept sterile and on ice they will retain their properties for some months, but each stock needs repeated testing to make sure of its efficacy.

So much for the actual grouping of blood. As the citrate method of transfusion is the most common one, the apparatus exhibited may interest you.

That is all I have to say. I have to thank Dr. Dale for the use of most of this apparatus. As I said at the beginning, this demonstration was for the purpose of advertising among the profession the fact that test sera are always available at the Health Department. If use be made of those sera, it will have been worth while and the operation of transfusion in this State will be an easier, safer and perhaps more frequent one, rather than a therapeutic curiosity.

SOME PROBLEMS IN HOOKWORM DISEASE AT THE STATE ORPHANAGE, TOWNSVILLE.

By R. W. Chento, M.D., B.S., D.T.M. & H.,
Director, Australian Institute of Tropical Medicine, Townsville, North Queensland.

During the last few years it has been demonstrated definitely that there is a marked distinction between hookworm infection and hookworm disease. Recognition that a person carries hookworm ova in the fæces is by no means an indication that that person has hookworm "disease," for in the vast majority of cases the infestation never rises to a level at which it manifests itself clinically.

In Queensland where the greatest number of cases of hookworm infestation occurs, actual hookworm disease is limited to a few definite and scattered localities which comprise in actual area an infinitesimal portion of the whole vast State. It is interesting, therefore, in a locality such as Townsville which has an infestation rate of less than 2% and a clinical manifestation rate practically nil, to find such a definite endemic focus as exists at the State Orphanage in that town. It has been the experience of all investigators in this field that hookworm infestation tends to become much more serious where the population in concentrated, as it inevitably must be in institutions, such as orphanages, asylums, gaols *et cetera*.

General Arrangements at the Orphanage.

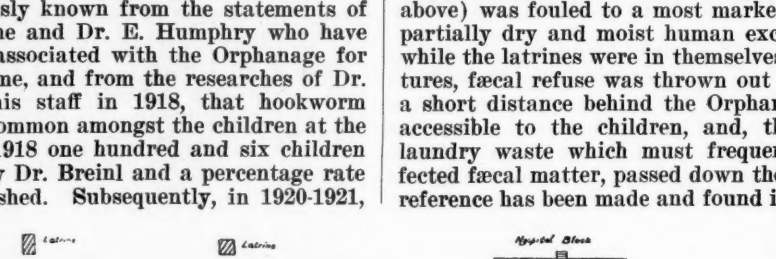
The Townsville Orphanage, situated in North Ward, Townsville, accommodates at the present date some fifty children, many of whom are actually orphans, others being children placed under the care of the State because of the straitened circumstances of their parents. From time to time children are boarded out with various approved persons or take supervised situations or in certain instances are adopted into outside families.

The population of the Orphanage is, therefore, essentially a migratory one and it is reasonable to suppose that any disease which is prevalent amongst its inhabitants, might on that account be susceptible of ready dissemination. In January, 1923, therefore, arrangements were made for a thorough examination of the whole of the available children from the Orphanage, with a view to determining the percentage infestation, its relation to length of stay and the demonstration, if possible, of the existence in the soil of active hookworm larvæ.

It was previously known from the statements of Dr. J. A. Ahearne and Dr. E. Humphry who have been intimately associated with the Orphanage for a considerable time, and from the researches of Dr. A. Breinl and his staff in 1918, that hookworm infestation was common amongst the children at the Orphanage. In 1918 one hundred and six children were examined by Dr. Breinl and a percentage rate of 43.4% established. Subsequently, in 1920-1921, Dr. H. H. Willis, examining fifty-seven children, obtained the very high total of 64.9% of infestation. The figures obtained in the examination, to which reference will be made below, approximate 50% of infestation.

From the subjoined sketch map it will be seen that the Institution consists of a main administrative block, behind which is the common dining room. In the rear of this again is a kitchen block with dressing rooms, bath rooms and laundry attached; on either side of the main dining room and in connexion both with it and with the administrative block is a dormitory, that nearest the entrance drive being the girls' dormitory and sewing room and that on the further side being the boys' dormitory. A play-shed and a tennis court are set on the nearer side of the girls' dormitory, while a cow-shed, tool room and milking bails are located on the further side of that occupied by the boys. The girls' dormitory, moreover, is raised on brick supports approximately three feet in height. In the rear of the whole building and removed to the right of it is a hospital block in two divisions. The institution is fronted by flower beds which on the right hand side give access to a kitchen garden plot set aside for cow-feed. Excellent latrines are provided. Drainage from the laundry is continued along that side of the building farthest from the main entrance drive, thence between the boys' dormitory and the cow-shed and is finally continued along the border of the cow-feed garden to a street outlet. In the latter part of its course it passes through ground which is continually moist. The drain itself is well constructed of concrete.

Certain outstanding features of the sanitation at once attracted attention from the point of view of the possible dissemination of hookworm disease. These were firstly that beneath the girls' dormitory the ground surface (which was kept moist by the drippings from the constant washings of the floors above) was fouled to a most marked extent by dry, partially dry and moist human excreta. Secondly, while the latrines were in themselves excellent structures, fæcal refuse was thrown out in an open field a short distance behind the Orphanage, which was accessible to the children, and, thirdly, that the laundry waste which must frequently contain infected fæcal matter, passed down the drain to which reference has been made and found its exit along the course of the drain and more particularly in the cow-feed garden.



Sketch Map of State Orphanage, Townsville, Showing Areas Positive for Hookworm Ova by Soil Examination.

It was further observed that all children were barefooted, not merely for purposes of economy, but from actual choice, the children preferring not to wear boots, even when they were provided with them. This fact and the fact that many of the children spent a very considerable portion of their day in the cow-feed garden, for example, and evidently in other infected localities, indicated at once the method and the site of their infection. It was decided to take samples of the soil in each suspicious locality to determine whether or not infection could be detected by actual experiment.

Investigations.

Soil samples were accordingly taken from the fouled ground below the girls' dormitory, from the cow-shed, the play-shed, the latrines, the wet course of the drain in several places and its vicinity, especially the cow-feed garden. These samples were examined by Cort's modification of the Baermann method and in five cases were found to be "positive." The best results were obtained beneath the girls' dormitory, along the course of the drain, to a considerable extent in the cow-feed garden and in the play-shed. The latrines which have been mentioned above, are excellently constructed and were free of infection so far as the soil in the vicinity was con-

cerned. This is a feature of significance and may indicate, not merely the suitability of their type, but also the high degree of control of hookworm dissemination which proper latrine accommodation affords. It has been the experience in heavily infected countries that larvæ were practically always obtainable in the vicinity of latrines.

Examination of the actual inmates of the Orphanage was found difficult and unsatisfactory from various causes, more especially from the fact that owing to new admissions and to the withdrawal of children from time to time, it was impossible to obtain a proper figure without considerable difficulty. It was decided, therefore, to make a series of examinations. Four examinations were conducted, which are shown in Table I. Treatments were given to the affected persons and a careful check kept on results. The percentage of cures was not as satisfactory as would have been expected from figures obtained elsewhere and it was considered probable that children were being re-infected constantly in the intervals between treatment.

While it is recognized that the examination of fæces by the microscope yields only a relatively approximate result, two facts are significant, firstly, that the percentage of cures fell considerably below what might have been anticipated from the very large number of treatments carried out elsewhere and, secondly, that of thirty-five persons whose stools had been minutely examined and declared free on the first examination, no less than five were found to harbour parasites at a later date. Since the examinations were in all cases done by the same technical assistants who had been engaged upon the work exclusively for a very considerable period, the factor of personal error is reducible to a minimum.

Incidence of Hookworm Infestation.

The whole of the figures shown in the summary may be summed up as follows. Of seventy-two persons in all who had been given examination, thirty-six or 50% had been found "positive" to hookworm. Of the thirty-six persons found "positive" it had been possible to follow up twenty-six only, the majority of whom remained during the several months that intervened at the Orphanage. In spite of several treatments fourteen only of the twenty-six were found to be cured; while of persons previously "negative" (thirty-five in all) five were found to have become infected during the four months that elapsed between the first and the last examination. Of the twelve persons who were not re-examined, nine had been removed from the Orphanage and the three remaining had been discharged from State control. Apart from hookworm, the commonest parasites found were *Trichuris trichiura* in sixteen persons or 22.2%; and *Hymenolepis nana* which was detected in four persons or 5.6%.

With a view to determining the effect of residence upon the hookworm infestation rate the children examined were classified in accordance with the length of time they had resided at the Orphanage. Of seven children who had been at the institution under one year, one only (14.3%) was found to be infected with hookworm. Of two who had been in the institution from one to two years, one was found infected with hookworm (50%); of nine children who had been between two and three years in the institution, five (55.6%) were found to be infected, while of the seven children who had spent three to four years in the Orphanage, five (71.4%) were found to be infected. Finally, of those who had spent more time in relation to the institution than three or four years, though not necessarily resident there (fourteen in all), seven (or 50%) were found infected with anchylostomes. Table II. indicates the results obtained more definitely (see page 406).

Table I.

Summary of Work for Period January 5, 1923, to May 19, 1923.

Examinations:		
Given first examination	72	
Found "positive" to hookworm	36	(50.0%)
Found "positive" to *Trichuris trichiura*	16	(22.2%)
Found "positive" to *Hymenolepis nana*	4	(5.6%)
Given treatment	66	
Re-Examinations:		
Given first re-examination, "positives"	26	
Found to be cured	9	(34.6%)
"Positives" given second re-examination	12	
Found to be cured	5	(41.7%)
"Positives" given third re-examination	3	
Found to be cured	0	(0.0%)
"Positives" given fourth re-examination	1	
Found to be cured	0	(0.0%)
Persons previously found "negative"	35	
Found "positive" to hookworm	5	(14.3%)
Previously "positive," re-admitted, not examined	5	
Not Re-Examined	12	
Removed	9	
Discharged from State control	3	

It will thus readily be seen that hookworm infestation increases very considerably after the second year of residence, reaching its maximum in the third and fourth years. This has been the experience of other investigators elsewhere. It becomes apparent, moreover, that when boarded out these children may become a disseminating centre in the areas to which they are sent.

The following figures show the respective numbers boarded out in the neighbourhood of Townsville and in Townsville itself:

Townsville	47
Charters Towers	65
Oonoonba	3
Atherton	1
Cairns	2
Ravenswood	4
Ayr	4
Winton	1
Brandon	1
Malanda	1

The percentage of children who had been Orphanage children, to the total infection rate in any of these localities has not been deliberately estimated, except in the case of Charters Towers, where of the total percentage of infected persons (fifty three) of forty-five whose histories were taken, Orphanage

Table II.

Hookworm Infestation as Related to Length of Stay in the Institution.

Length of Residence.	Number Examined.	Found "Positive" to					
		Hookworm	%	*Trichuris trichiura.*	%	*Hymenolepis nana.*	%
Under one year	7	1	14.3	3	42.9	1	14.3
One to two years	2	1	50.0	0	—	0	—
Two to three years	9	5	55.6	1	11.1	0	—
Three to four years	7	5	71.4	2	28.6	1	14.3
Four to five years or more	14	7	50.0	5	35.7	0	0

children contributed sixteen, or 35.6%, thus directly accounting for over one-third of the whole of the infection present among the school children in that town and omitting any mention of the possibility of their indirect influence as playmates *et cetera* among the remaining infected individuals. By placing these facts before the responsible officers permission was obtained to control dissemination by examination and effective treatment of all incoming and outgoing children prior to their mixing with the other Orphanage children or the inmates of their new homes.

Of a total of one hundred and thirteen children who were fostered out, it was possible to get in touch with forty-seven. Of these twenty-six or 53.3% were found "positive" to hookworm. It will be seen, therefore, that the children retain materially the infection which they acquire at the Orphanage subsequent to their distribution to other homes.

Certain features of importance may now more definitely be emphasized.

(i.) The children at the Orphanage are exposed to continued infection by hookworm disease and evidence the fact that infection does constantly occur by the progressive percentage found infected from year to year of residence.

(ii.) There is a heavy soil infestation in certain areas frequented by the children both while at work and during play, in particular, beneath the girls' dormitory, in the cow-feed garden and all areas adjacent to the drain and in the playshed. (In respect of this last, the Matron volunteered the statement unasked that she had been struck by the fact that children set to play in the play-shed became after a few months pale, languid and listless.)

(iii.) Obvious soil pollution possibilities were detected in connection with the grossly polluted soil beneath the girls' dormitory, along the course of the drain leading from the laundry and in the field adjacent to the Orphanage where fæces were incompletely disposed of.

It is evident, therefore, that the vicious circle is a simple one; the children infect the soil, other children are thus infected and they in turn more grossly infect the soil and thus materially increase the rate and scope of infection.

Measures of Control.

With regard to measures of control in hookworm disease one may readily resolve them into a triple series, namely: (*a*) The cure of the infested individual, (*b*) the prevention of soil pollution, (*c*) measures to render primarily polluted areas innocuous.

Cure of the Infested Individual.

As regards measures for the cure of the infested dividual the standard routine treatment employed by the Hookworm Campaign was undertaken in all cases. With regard to the word "cure," it must be pointed out that hookworm treatment frequently fails to lower appreciably the actual percentage of affected persons in a heavily infested locality, but its virtue lies in the fact that it reduces to a large extent the numbers of worms harboured. Thus, it is suggested that 90% of the worms are removed with ease at one treatment, but the remaining 10% are extremely difficult to remove by any number of subsequent treatments. It is frequently forgotten, however, that since hookworms cannot increase within the body and must be added to constantly (if they are to increase) by infective larvæ from polluted soil areas, though the individual treated may remain in consequence officially "positive," the case

Table III.

Examination of Children Fostered Out.

	Townsville.	Charters Towers.	Atherton.	Total.
Number of children fostered out	47	65	1	113
Number examined	40	6	1	47
Found "positive" to hookworm	22	3	1	26
Percentage "positive"	55	50	100	53.3
Given first treatment	22	0	0	22

is removed from the category in which clinical symptoms are liable to appear. In other words, though ova may appear in the stools after thorough treatment, yet in the absence of fresh infection and always provided that prevention of soil pollution is stringently enforced, their presence may be of negligible importance and patients whose worm parasites have been reduced to this "irreducible minimum," may be regarded as cured from the individual point of view, though, of course, from the point of view of the community they still need continued supervision and control.

Prevention of Soil Pollution and Measures to Render Primarily Polluted Areas Innocuous.

The evidence of the figures above confirms the recognized assumption that most treatment *per se* is relatively useless and must be supported by vigorous measures of prevention in regard to soil pollution. At the Orphanage steps in this direction had been taken by the provision of adequate latrines and, as stated above, these areas were found to be free from hookworm infestation. The uncontrolled factor, however, in this instance was the infant population from two to six years of age, over whose promiscuity in the matter of defæcation it was impossible to exercise adequate control.

Cort and Payne in the West Indies recently confirmed the statement of Baermann in Sumatra that even gross pollution is localized in character. There is little migration of infective hookworm larvæ from their places of development, although some evidence was collected to show that they might be carried considerable distances by water. Moreover, it was found that they show no automatic tendency to migrate to favourable situations, even when their original environment becomes unfavourable. D. L. Augustine, carrying on experiments in the same locality in the West Indies, confirmed the fact that under optimum conditions of moisture and temperature, infective hookworm larvæ are found to remain on and in the upper surface of the soil, and further determined that, whereas from the observations of various investigators of hookworm larvæ under unnatural conditions the opinion has become current that they live for months or even years in the soil, if conditions of temperature and moisture are favourable, on the other hand, laboratory experiments under natural conditions demonstrated a rapid diminution in the hookworm larvæ in soil of various types and proved that the extent of their life is limited to about six weeks. Indeed, Augustine draws the conclusion that environmental conditions, such as tropical temperatures which tend to increase the activity of the mature hookworm larvæ, actually shorten their lives by the more rapid using up of their stored food material.

Evidence of a practical nature was forthcoming in the experiments of Cort and Payne by the discovery after the reduction of soil pollution in the areas referred to, by the institution of suitable latrines and the treatment of the people of the area, that there was a very rapid diminution in the numbers of infective hookworm larvæ found, so that in about six weeks soil infestation was practically eliminated.

Baermann showed several years ago that larvæ wander rapidly from artificially disturbed earth, all having gone from loose earth in twenty-four hours and the majority after the first half-hour, and that the mixing with water and breaking up of lumps of earth expedited their removal. Baermann insisted further on the essential nature of shade and moisture and on the importance of the concentration of the population in producing a heavy infestation rate.

At the Orphanage we have a ready means of controlling the spreading of hookworm infestation from the play-shed or from the areas beneath the buildings by the asphalting of the former and by netting round all the frequently moistened, polluted spaces beneath the buildings to which the children may have access. In the garden, however, with the rich, constantly moist soil receiving the contaminated overflow from the drain and lying, moreover, at the lowest part of the Orphanage block, as the runway through which the natural sub-soil and surface drainage tends to make its way, we have a more difficult problem. The simplest solution would naturally be the continuous wearing of shoes. Apart from the cost, however, which would be considerable, their wear could not be assured, since the children use boots only under compulsion. It should, however, decidedly be insisted that the Orphanage children employed in the cow-shed or cow-feed garden, should wear boots on these occasions. The custom of throwing out the fæces in a neighbouring field, should, of course, be remedied by the construction of a pit latrine.

Conclusions.

1. Hookworm disease is endemic at the Townsville Orphanage which acts as a local focus and disseminating centre.

2. The polluted soil areas, *videlicet* that beneath the girls' dormitory, the cow-shed, the play-shed, the course of the drain, cow-feed garden and the adjacent hillside on which fæcal refuse is insanitarily disposed of, should be rendered incapable of pollution by suitable measures. These measures should include: (i.) The roofing of the drain throughout the whole of its course; (ii.) the netting round, preferably with barbed wire, at intervals sufficiently close, of all dead spaces beneath buildings where children may surreptitiously defæcate, more particularly that space below the girls' dormitory; (iii.) the asphalting of the play-shed; (iv.) the provision of a pit or well cistern on the hillside for the reception of such fæcal waste as was formerly thrown there haphazard; (v.) insistence upon the use of boots amongst those children who are working in the cow-shed or the cow-feed garden.

3. Examination of the children at intervals of three months for hookworm with the exhibition of the standard routine treatment in all cases found positive.

4. The continuance of the present system of examination of new entrants to the institution and all children leaving the place with a view to curing them of any hookworm infestation before allowing them to mix either with the remaining Orphanage

children or the families outside the Orphanage to which they may be destined.

5. Determination from time to time by actual soil examination of spots locally infested with hookworm larvæ and their treatment in accordance with the method advocated by Baermann.

References.

1. A. Breinl, Half-Yearly Report, Australian Institute of Tropical Medicine, Townsville, July to December, 1918.

2. H. H. Willis, "The Control of Hookworm Disease in the Townsville, District, Queensland," Completed Area Report No. 6, Hookworm Campaign, Queensland.

3. Cort *et alia*, "The Description of Apparatus for Isolating Infective Hookworm Larvæ from Soil," *The American Journal of Hygiene*, Volume II., No. 1, January, 1922.

4. Cort and Payne, "Investigations on the Control of Hookworm Disease," VI. and VII., *The American Journal of Hygiene*, Volume II., No. 2, March, 1922.

5. D. L. Augustine, "Investigations on the Control of Hookworm Disease," Nos. 8, 9 and 10, *The American Journal of Hygiene*, Volume II., No. 2, March, 1922.

6. G. Baermann, "*Eine einfache Methode zur Auffindung von Ankylostomum Nematoden Larven in Erdproben*," *Mededeelingen uit het Geneeskundis Laboratorium te Weltevreden*, Feestbundel, Batavia, pp. 41-47.

7. G. Baermann, "*Über Ankylostomiases, deren Ausbreitungsbedingungen durch die Bodeninfection und deren Bekämpfung*," *Geneeskundig Tijdschrift voor Nederlansch-Indië*, Batavia, LVII., 579-669.

A NOTE ON THE OCCURRENCE OF LIPASE IN THE URINE IN TWO CASES OF ACUTE PANCREATITIS WITH FAT NECROSIS.

By Gordon Cameron, M.B., B.S.,

Stewart Lecturer in Pathology (from the Pathology Department, University of Melbourne).

The presence of a fat-splitting enzyme in the urine of a patient with acute hæmorrhagic pancreatitis with fat necrosis was first recorded by Opie[1] in 1903. Using the Kastle-Loevenhart test, by which the alkaline lipolytic solution is allowed to act on ethyl butyrate at 37° C. for twenty-four hours, Opie was able to demonstrate the presence of a considerable amount of fat-splitting enzyme through its alteration in the reaction of the medium to litmus, the resulting fatty acids producing an acid reaction. The urine was obtained from the bladder at *post mortem* examination.

Opie concluded that "recognition in the urine of an enzyme derived from the pancreas would afford a certain means for diagnosis of obscure pancreatic affections, accompanied by fat necrosis, notably hæmorrhagic necrosis."

Hewlett[2] in 1904 attacked the problem from the experimental side and by using a quantitative method based on the Kastle-Loevenhart test, showed that lipase appears in the urine in greatest amounts as a result of experimental acute hæmorrhagic pancreatitis. It was present over a period of from three to five days after obstruction of the pancreatitic duct. Very little, if any, lipase is present in normal urine.

Hewlett pointed out that the urine should be free from bacteria and there should be definite evidence that the kidneys were not diseased and so allowing increased excretion of lipase. He also showed that anæsthetics do not cause increased excretion. Olive oil could be used instead of ethyl butyrate.

Zeri[3] in 1905 found lipase in the urine only when pus or blood was also present.

Pribam and Loewy[4] in 1912 reported lipase in the urine in nephritis, congestion of the kidneys and polyuria.

Lorenzini,[5] however, says that the lipolytic content of urine is reduced, along with other enzymes, in albuminuria, there being a simultaneous accumulation of enzymes in the blood. E. W. Archibald[6] thinks that the presence of lipase in urine is of distinct value, when the test is positive, but its absence is far from indicating the absence of pancreatitis. Beyond these, I have not been able to find any other reference in the literature.

The object of this short paper is to report the result of examination of the urine in two cases of acute pancreatitis with fat necrosis.

Case I.—The patient, aged sixty-two years, was an unmarried female. There was no history of any previous illness. She was suddenly seized with a sense of discomfort in the epigastrium which rapidly became worse until it amounted to acute pain, continuous, not radiating in any direction, not especially affected by anything. She had great nausea and vomited sour-smelling fluid twice. When first seen the patient appeared shocked, with a pulse-rate of 85 and temperature of 37.2° C. (99° F.). She had slight rigidity in the epigastric region and some distension. The patient's condition gradually became worse, the distension increased; she vomited again and her pulse-rate rose to 95, her temperature becoming slightly subnormal. Her bowels had not been open since the commencement of the illness and an enema gave no result.

Operation was performed. The abdominal cavity was full of blood-stained fluid. There was great distension of the large intestine. In the great omentum and mesentery many small areas of fat necrosis were seen and the pancreas was greatly inflamed, with blood-stained fluid oozing freely from its surface.

The urine was examined by me several days after the operation and presented the following features.

(i.) The urinary diastatic value was 100 units.

(ii.) Cammidge's test yielded a reaction.

(iii.) There was no sugar, no albumin, but a trace of diacetic acid and acetone; bile pigment and indican were present.

(iv.) Lipase was present.

I am indebted to Dr. Charles Osborne for the notes of this case, as well as the specimen of urine.

Case II.—This patient, a female aged fifty-two years, was admitted to the Melbourne Hospital with the diagnosis of an acute abdominal condition.

Operation revealed cholecystitis, with gall stones in the gall bladder and many areas of fat necrosis in the omentum and mesentery. The pancreas was not examined.

Examination of the urine several days after operation yielded the following information.

(i.) The urinary diastatic value was 200 units.

(ii.) Cammidge's test gave a reaction.

(iii.) There was no albumin and no sugar; bile and indican were present; no diacetic acid nor acetone was detected.

(iv.) Lipase was present.

The chief interest of these cases is the presence of a fat-splitting enzyme in the urine in appreciable quantities. In both cases precautions against the fallacies pointed out by Hewlett were taken. The urine was either a catheter specimen or else no bacteria were grown on culture. Both patients had no signs of renal disease.

ILLUSTRATIONS TO DR. NORMAN PAUL AND DR. KEITH INGLIS'S ARTICLE.

FIGURE I. × 32.
Specimen 1.—Showing masses of epithelial cells of basal type forming a band of new growth continuous with the epidermis.

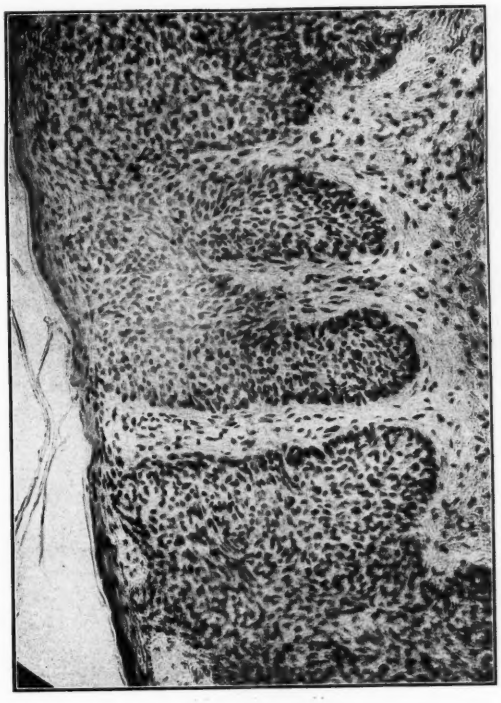


FIGURE II. × 163.
Specimen 1.—Showing in greater detail portion of growth seen in Figure I. The basal type of cell can be well recognized.

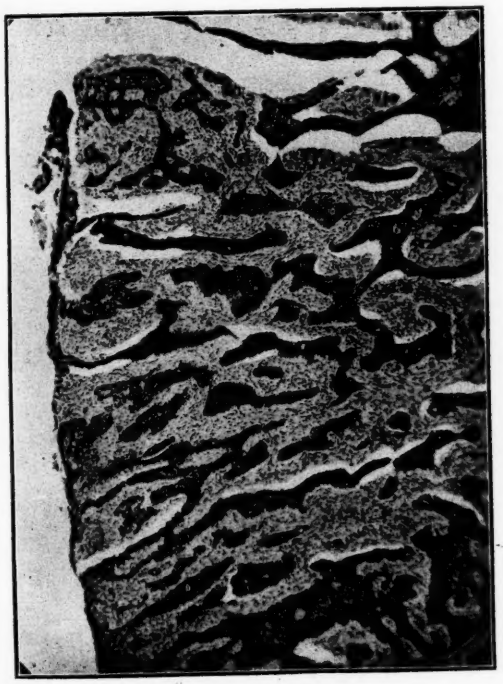


FIGURE III. × 50.
Specimen 2.—Showing elongated masses of epithelial cells of basal type. The masses are placed for the most part at right angles to the surface. Fragments of the original surface epithelium are still present.

FIGURE IV. × 125.
Specimen 2.—The compact structure seen in Figure III. is here seen changing into a more open type of structure.

ILLUSTRATIONS TO DR. NORMAN PAUL AND DR. KEITH INGLIS'S ARTICLE.

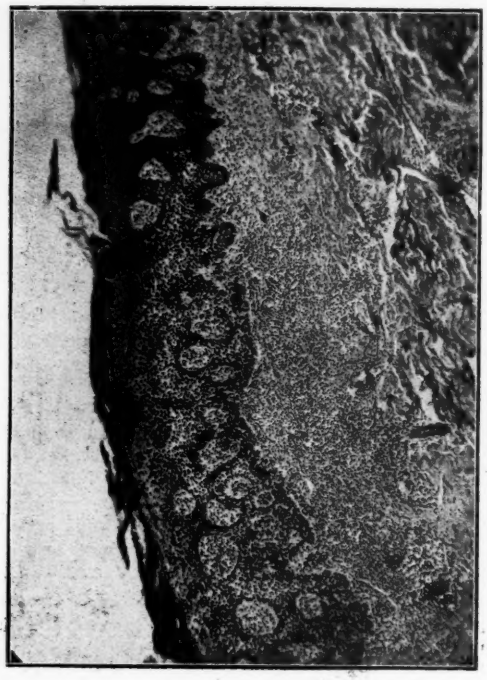
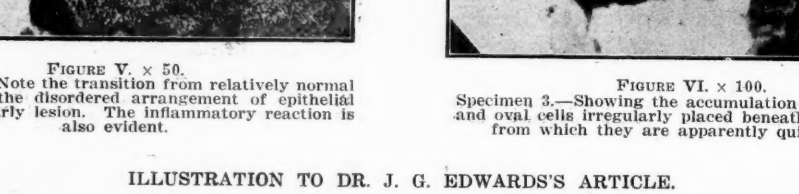


FIGURE V. × 50.
Specimen 2.—Note the transition from relatively normal epidermis to the disordered arrangement of epithelial cells in the early lesion. The inflammatory reaction is also evident.

FIGURE VI. × 100.
Specimen 3.—Showing the accumulation of small round and oval cells irregularly placed beneath the epidermis from which they are apparently quite distinct.

ILLUSTRATION TO DR. J. G. EDWARDS'S ARTICLE.



P = Paste; 1 = Diamond.

The test was carried out as follows. Tubes containing the following mixture were incubated at 37° C. for twenty-four hours.

Tube I.—Five cubic centimetres of urine with one cubic centimetre of sterile olive oil (50% emulsion) and sufficient phenolphthalein (1% solution) and alkali to give a pronounced purple colour.

Tube II.—Five cubic centimetres of urine with one cubic centimetre of olive oil emulsion and two cubic centimetres of litmus solution.

Tube III.—Five cubic centimetres of boiled urine with one cubic centimetre of olive oil emulsion and phenolphthalein and alkali as in Tube I.

Tube IV.—Five cubic centimetres of boiled urine with one cubic centimetre of olive oil emulsion and two cubic centimetres of litmus solution.

Tube V.—Five cubic centimetres of distilled water with one cubic centimetre of olive oil emulsion and phenolphthalein and alkali as in Tube I.

Tube VI.—Five cubic centimetres of distilled water with one cubic centimetre of olive oil emulsion and two cubic centimetres of litmus solution.

The results obtained were:

Tube I: Light pink colour, becoming colourless in forty-eight hours;
Tube II: Dark red colour;
Tube III: Purple colour;
Tube IV: Blue colour;
Tube V: Purple colour;
Tube VI: Blue colour.

Hence it was concluded that the change in reaction from alkaline to acid in Tubes I. and II. was due to the presence of fatty acids derived from the olive oil through the action of a fat-splitting enzyme.

Other tests carried out similarly with urine from normal persons failed to yield reactions.

These results are of some interest in that they confirm Opie's observation and contribute towards our knowledge of acute pancreatitis. I am rather impressed with the fact that such a powerful enzyme as lipase is able to be excreted in considerable quantities by the delicate renal cells without producing extensive damage as evidenced by albuminuria. Perhaps an estimation of the tryptic power of the urine in such cases would throw some light on this problem, for experimental work on fat necrosis seems to show that the presence of both trypsin and lipase is necessary to produce this condition.

References.

(1) E. Opie, "Diseases of the Pancreas," 1910.

(2) A. W. Hewlett: "On the Occurrence of Lipase in the Urine After Experimental Acute Pancreatitis," *The Journal of Medical Research*," Volume VI., 1904, page 377.

(3) Zeri: Quoted by H. G. Wells in his "Chemical Pathology," page 72.

(4) H. Pribam and A. Loewy: *Zeitschrift für Physiologische Chemie*, Volume LXXVI., 1912, *Seite* 489.

(5) Lorenzini: Quoted by H. G. Wells in his "Chemical Pathology," page 72.

(6) E. W. Archibald: *International Clinics*, Volume II., 1918, page 1.

A POPULAR FALLACY.

By J. G. Edwards, M.B., Ch.M. (Sydney),
Honorary Radiologist, Sydney Hospital.

For many years lay and semi-scientific journals have made the statement that natives working in the South African Diamond Mines are examined by X-rays to see whether they have swallowed diamonds or have secreted them about their persons.

Now we find that great physicist, Professor Kaye, in 1922 edition of "Practical Applications of X-Rays" (Chapter VI.) also makes the statement that the native miners are thus examined.

It is hard to see how such an examination would be of any value as a diamond throws practically no shadow on the X-ray plate and it is almost impossible to detect one when placed on a plate with a small hand covering it.

Paste gems contain certain amounts of lead and cast a fairly dense shadow, but unless of great size, such a gem could not be demonstrated in the mouth, nasal passages or intestines.

The skiagram herewith (see page 410) was taken to illustrate the fallacy of this popular belief.

The diamond is marked "I" and the paste gem "P."

Both stones were roughly seven millimetres in diameter.

The first skiagram was taken with a soft tube equal to about a three-centimetre spark gap, while the other two were taken with a seven-centimetre tube.

The latter tube gives good definition in a hand skiagram, but would not be sufficiently penetrating for head or body work and yet it will be seen that the paste gem casts some shadow, while the diamond shadow is practically indistinguishable.

With screen examination, which is said to be the method used in the mines, there would be no chance of distinguishing the shadow of a diamond, even if held in the hand.

Reports of Cases.

PUERPERAL INFECTION: SPONTANEOUS FÆCAL FISTULA.[1]

By Arthur J. Nyulasy, M.R.C.S. (England),
Senior Honorary Gynæcologist, Perth Hospital.

This patient, aged twenty-five years, was admitted to the Perth Hospital six days after delivery with the symptoms of infection and a foul discharge. Much adherent placenta and polypoid decidua were at once removed and the patient then held her own for over three weeks. She then showed signs of deterioration, while the *recti abdominis* up to about the level of the umbilicus were noted to be hardened and infiltrated.

On July 26, 1923, the abdomen was opened by a suprapubic incision, a small amount of pus being encountered in going through the recti, while the peritoneal and subperitoneal tissues were seen to be thickened to over 12.5

[1] Read at a meeting of the Western Australian Branch of the British Medical Association on August 15, 1923.

millimetres. The uterus was adherent by the anterior portion of the fundus to the anterior abdominal wall, as were also the upper free margins of both broad ligaments; otherwise there was nothing unusual to notice. The next day when an enema was given, the contents of the enema were seen to come through the rubber rube drain which had been placed in the wound. And now came a remarkable development. The distension, which had been a troublesome feature, at once disappeared, while the general condition rapidly improved. Within a few days the patient was well on the road to recovery.

The exact rôle of the fæcal fistula in bringing about cure in this case is not altogether obvious, but I would point out that it was through noting that recovery almost always ensued in drained pelvic abdominal cases in which a spontaneous fæcal fistula arose, that I finally came to advocate intestinal drainage as a deliberate procedure in septic peritonitis. I described a number of successful cases in *The British Journal of Surgery*. Should the fæcal fistula fail to close in this case, I would do a sigmoidostomy and repair the artificial anus when the opening in the rectum had closed. This closure could be definitely determined by a skiagram.

Addendum.

A few days later the fæcal fistula closed spontaneously. I have to thank Dr. Donald Smith for the X-ray plates showing an opening into the upper part of the rectum.

GASTRIC SPASM.[1]

By Arthur J. Nyulasy, M.R.C.S. (England),
Senior Honorary Gynæcologist, Perth Hospital.

A lady, aged about forty-three years, lost her son at the war and not long afterwards her husband was attacked by *paralysis agitans*. Between the natural grief at her bereavement and her distress at her husband's condition the lady's nerves went to pieces. About three years ago she began to suffer from pains in the stomach, these pains not being specially related to meals, but coming on at any time, even when resting in bed at night. From time to time the contents of the stomach were vomited, but were not offensive. On examination the patient was found to be perfectly nourished and to be in excellent health, while examination of the abdomen failed to disclose any abnormality. A series of X-ray photographs was taken by Dr. Donald Smith and revealed merely an extensive spasm of the stomach, the spasm involving at least the central third of the stomach. When I explained the condition to the patient she immediately began to improve. The patient had been very nervous as to the supervention of cancer, the findings bearing out Dr. Smith's view that she had been suffering from "carcinophobia." Under the influence of a great emotional strain people may complain of an "ache" or pain in the epigastrium, the foregoing case suggesting that this is the result of a gastric spasm.

PAGETOID OR ERYTHEMATOID BASAL CELL EPITHELIOMA.

By Norman Paul, M.B., Ch.M.,
Honorary Dermatologist, Royal Alexandra Hospital for Children, Sydney;
Honorary Assistant Dermatologist, Sydney Hospital.

With a Pathological Report

By Keith Inglis, M.D., Ch.M. (Sydney),
Lecturer in Pathology, University of Sydney, Pathologist, Sydney Hospital.

Considerable discussion has recently taken place amongst British dermatologists in regard to the somewhat rare condition which various authors have described as the Bowen type of epithelioma, extra-mammary Paget's disease and even as *lupus erythematosus*, but which Darier has recently designated Pagetoid basal cell epithelioma, a name which aptly describes the clinical aspect of the later lesions. During these discussions importance was attached to the opinion of Dr. Darier, who was present, and the consensus of opinion was that the lesions under consideration should be regarded as an entity and not as portion of the clinical picture of what some had formerly regarded as a disease complex, the Bowen type of epithelioma.

Within the past two years two cases presenting this unusual type of lesion have come under my observation and it seemed to me a description of these cases might be of interest, especially as some of the lesions showed variations or modifications from the typical lesions.

Case I.

The patient, F.B.K., was a male, aged fifty-eight years, who complained of a troublesome and irritating growth on the back. Although somewhat pale and anæmic in appearance he stated that he had never had any severe illness in his life. The present large plaque when it was first observed about twenty years ago started as a red itchy patch the size of a shilling and has been gradually spreading. Pruritus has been present for many years and at times has been very severe. The patient states that for some time there has been a watery discharge. Pain has been absent, but there has been a sensation of heat.

The large lesion complained of was observed to be situated in the right lumbo-sacral region, extending almost to the mid-line. It was twelve centimetres in its transverse and ten centimetres in its vertical length.

The periphery of the lesion was sharply circumscribed with a somewhat wavy contour and exhibited a narrow band of a brownish colour. External to this brownish coloured band and irregularly broken up could be seen a slightly raised, beaded, advancing border. The main mass of the plaque was of a pink colour, in which there appeared islands of a brighter red, suggestive of the epidermis being denuded. In the lower portion of the growth there was an area six centimetres by six centimetres which was red, uneven and raised five to six millimetres above the surrounding part of the lesion. This portion somewhat resembled excessive granulation tissue and the patient had been aware of this later development only about twelve months.

There was no appearance of cicatrization. Vaseline had been applied and scales and crusts were absent.

At his first visit the lesion bore a close resemblance to Paget's disease and the possibility of the condition also being that of the Bowen type of epithelioma was considered. Sections were removed for pathological examination. Subsequently a careful examination was made for further lesions and only two somewhat indefinite lesions were seen. Five centimetres below and just internal to the left nipple I found a small, flat, dull pink oval lesion, one centimetre in size. This lesion was not itchy and the patient was unaware of its existence.

This was also excised for microscopical examination.

An indefinite pink spot was noted outside the right trochanter about the size of a pea. On neither of these small lesions was there any scaling. There were, on the front and back of the trunk, numerous seborrhœic warts and small angiomata.

Case II.

The patient, a male, aged forty years, a clerk, consulted me on account of a lesion on the right side of the abdomen. On examination this was found to be twenty millimetres by eighteen millimetres in diameter, of an erythematous colour. There had been superficial ulceration followed by cicatrization and with the aid of a lens a slightly raised, beaded border could be observed at one portion. On the lower mid-dorsal region a further lesion was noticed ten millimetres by eight millimetres in size. This plaque showed superficial ulceration, was of a red colour, with a thin, moist crust and no beaded border could be

[1] Read at a meeting of the Western Australian Branch of the British Medical Association on August 15, 1923.

observed even with a lens. This lesion was evidently of similar nature to the one on the abdomen only in an earlier stage; the patient was unaware of its presence. Numbers of seborrhœic warts were beginning to manifest themselves. The plaque on the abdomen had at times been slightly itchy. A section was taken from the beaded border of this growth. It showed a baso-cellular downgrow and although not quite so extensive it resembled that taken from the border of Case I., which is described in detail.

Pathological Report.

CASE I.

Dorsal Lesion.

Two pieces of tissue were examined: (i.) A snipping taken from the flattened portion which constitutes the greater part of the lesion, and (ii.) a snipping taken from the irregularly raised portion which had the clinical appearance of an epitheliomatous change in tissue which was originally the same as that forming the first specimen.

Microscopical Features.

Specimen (i.)—There is an irregular downgrowth of masses of epithelial cells of the epidermis. These cells are apparently all derived from the basal layer, very few prickle cells being included. The cell aggregations in some places are only large enough to give the appearance of exaggerated inter-papilliary processes, but others bulge into the *cutis vera* and form definite tumour masses the structure of which closely resembles that of a rodent ulcer of compact type. In some instances these cell aggregations coalesce and form a band of new growth which spreads laterally beneath the true epidermis (see Figure I., pages 409 and 410).

There appears to be no tendency whatever to form cell nests or keratin.

Immediately beneath and surrounding the clumps of epithelial cells there is a marked inflammatory reaction as evidenced by the presence of many lymphocytes and numerous plasma cells. A few polymorpho-nuclear leucocytes are also to be seen in this inflammatory zone. This reaction, which is more evident in some areas than in others, is probably secondary to the growth and represents an attempt at resistance on the part fo the patient. Similar lymphocytic accumulation is also to be seen around the advancing margin of many epitheliomata and beneath the skin lesion of Paget's disease of the nipple.

Here and there in the epidermis a prickle cell is seen with a crescentic space between the nucleus and the periphery of the cell (vacuolated cell), but for all practical purposes it may be said that the so-called Paget cells are absent.

The inflammatory zone is not confined to the *cutis vera*, but in places passes for a short distance into the subcutaneous tissues. Immediately beneath the inflammatory zone the subcutaneous tissue is rather densely fibrous.

Blood spaces and vessels are present in the inflammatory zone, but in view of the redness of the lesion seen by the naked eye, the limited degree of vascularity to be observed histologically is rather surprising.

Yellowish brown pigment granules are present, though they are not very abundant. They are situated in the inflammatory zone. Some of them are apparently extracellular, but many are within elongated cells which are probably fibroblasts. A few of the epithelial cells in the masses of growth also contain pigment granules, but these granules are inconspicuous compared with those in the connective tissue stroma. Whether these granules are melanin or blood pigment is uncertain. The columnar basal cells of the unaffected epidermis and around the masses of growth contain no pigment.

Here and there the superficial epidermis over a mass of growth has given way to form shallow ulcers and many polymorpho-nuclear leucocytes have passed through the thick masses of epithelial cells to the floors of the ulcers in the neighbourhood of which they have accumulated.

Specimen (ii.)—In this specimen similar changes are present to those seen in the first only in exaggerated degree. The growth is composed of basal cells which are arranged for the most part in elongated columns at right angles to the surface (see Figure III.). In places this compact arrangement gives way to a more open structure (see Figure IV.), the spaces being due to the formation of vacuoles in the epithelial cells, the intervening septa between the vacuoles subsequently breaking down. In Figure V. the transition from epidermis approximating normal to the disordered arrangement of epithelial cells in the early lesion is well seen.

Prickle cells are absent almost entirely throughout nearly all the lesions, the superficial epidermis having disappeared, leaving a continuous raw surface abutting on which are masses of growth, connective tissue stroma and accumulated polymorpho-nuclear leucocytes.

Here and there, as is seen in Figure III., remnants of the overlying surface epithelium are present. The connective tissue stroma is very vascular, thus accounting for the redness of the lesion seen with the naked eye.

The stroma is for the most part more fibroblastic than in the first specimen, but numerous lymphocytes, polymorpho-nuclear leucocytes, plasma cells and a few eosinophile leucocytes are also present. At the junction between the relatively healthy epidermis and the pathological process seen in Figure V. the zone of inflammatory reaction is very cellular (chiefly lymphocytes and plasma cells) and the same applies to the cellular zone below the growth. It is only between the columns and masses of tumour cells that the stroma is fibroblastic. Deep to the lesion the subcutaneous tissue is densely fibrous, but around some of the sweat glands it manifests a tendency to myxomatous changes.

Yellowish-brown pigment granules are present to a slight extent. For the most part they are in the stroma, but a few granules can be seen in the epithelial cells of the growth.

Ventral Lesion.

Specimen (iii.)—A snipping was removed from the skin of the thorax. There is little deviation from normal in the epidermis. The interpapillary processes are in some places longer, in others broader than usual, but nothing resembling the histological picture present in sections from the dorsal lesion is to be seen in this specimen (see Figure VI.).

Immediately beneath the epidermis are accumulations of small round or oval cells of which the nuclei constitute the most conspicuous feature. These cells are placed irregularly and exhibit no definite arangement. They are similar to the cells which are present beneath the epidermis in many congenital moles.

The nature of these cells is not altogether clear. Possibly they are of endothelial origin, but it is more likely that they have developed from epiblastic cells which have been separated from the epidermis early in development and have ceased to undergo further differentiation.

Unlike the cellular aggregations in the dorsal lesion, which are in direct continuity with the epidermis, the cellular accumulations in the ventral lesion are less dense, more scattered and have no apparent link with the overlying epidermis.

Brownish pigment granules, similar to those noted in the dorsal lesion, are present in small numbers, some in the basal layer of the epidermis, others in the stroma beneath the epidermis.

Comments.

Histologically the lesions of these Pagetoid basal cell epitheliomata are differentiated from ordinary rodent ulcer by (*a*) their vascularity, accounting clinically for their red colour, (*b*) by the continuity of the downgrowth from the basal cell layer over a wide and extensive area and (*c*) by the pigmentation.

Pruritus is sometimes a subjective symptom.

These lesions are stated by various authors to have arisen on patches of psoriasis. Is it not possible that these so-called psoriasiform patches are but its early manifestations? One of the lesions in Case II. clinically did not present any beaded border, whilst a lesion in Case I. (certainly an indefinite lesion) appeared only as a persistent erythematous patch.

I would like to draw particular attention to the association of seborrhœic warts and small angiomata with the Pagetoid basal cell epitheliomata. All are apparently nævoid structures and similar concomitant lesions have been noticed in cases described as the Bowen type of epithelioma or Bowen's precancerous dermatosis.

Dr. Adamson considers these Pagetoid epithelomata to be of nævoid origin; that they are buddings from the basal cell layer which are trying to become sweat apparatus. The histological picture would certainly seem to support this opinion.

Radium is the treatment eminently adapted for this type of growth.

I have to thank Dr. Keith Inglis for the full pathological report and the numerous micro-photographs.

Reviews.

DOMICILIARY TREATMENT OF PULMONARY TUBERCULOSIS.

The "Domiciliary Treatment of Pulmonary Tuberculosis" by Rufenacht Walters is essentially a book for the general practitioner, under whose care the great bulk of patients with pulmonary tuberculosis must come and remain. This excellent manual[1] should be in the hands of all general practitioners and tuberculosis officers. So few are able or willing to avail themselves of sanatorium treatment that the training of patients in their own homes is the duty of the family physician.

Recent graduates and students possibly have little opportunity or time to master the details of treatment which often turn the balance towards recovery. This book is simple, explicit and complete in its description of the methods that are applicable in the ordinary home. The methods carried out at home should be modelled as far as possible on those of the sanatorium and a great deal can be done in this way.

The author points out that the hereditary tendency to tuberculosis has been emphasized too much by those specially concerned with this disease. It is his opinion that the child of tuberculous parents is probably more resistant than the children of the non-tuberculous. Idiopathic pleurisy is recognized as a strong pre-disposing factor even if it be not already tuberculous.

The chapter on exercise of the tuberculous should be carefully studied especially in regard to the kind, quality and extent of exercise. The careful regulation in the right proportion of exercise and rest is often the determining factor in recovery. Emphasis is also laid upon the necessity of keeping careful and accurate records of the temperature. Attention is drawn to the significance of the temperature in the regulation of exercise and rest. Perhaps too little has been made of the frequency of faulty thermometers.

Climate is dealt with as not the all-important factor and the author points out that it is rather the mode of life followed in pure air which contributes mainly to recovery.

Again many misconceptions exist as to diet and useful tables of scales of diet are to be found in the appendix. The stuffing process is discounted. Too rapid increase of weight is harmful and the same results can be attained without the risk of damaging hopelessly the organs of digestion.

Specific and drug treatments are dealt with briefly and are relegated to a minor place. They should not take the place of methods founded on sanatorium experience. A brief description of lung compression is appended and indications for its adoption are given, but this is not likely to be used frequently by the general practitioner. Too little space is given to the difficult problem of the treatment of intestinal tuberculosis.

The appendix contains useful hints on the examination of sputum and so forth, and a useful classification of cases is given according to the extent and type of the disease.

This handy text-book is to be commended for its clearness of expression and freedom from overloading with detail which confuses the beginner's mind in the study of this important and dangerous disease.

[1] "Domiciliary Treatment of Tuberculosis," by F. Rufenacht Walters, M.D., B.S., M.R.C.P. (Lond.), F.R.C.S. (Eng.); 1921. London: Baillière, Tindall & Cox; Demy 8vo., pp. 290, with six charts. Price: 12s. 6d. net.

PHARMACOLOGY AND THERAPEUTICS.

The English translation of E. Poulsson's "Text-book of Pharmacology and Therapeutics," edited by Professor W. E. Dixon, of Cambridge, is a valuable addition to the bibliography on these subjects.[1]

In simple and direct diction the author has blended the information gleaned somewhat empirically from bedside observation with the knowledge obtained from experiments on animals and from the more exacting laboratory methods.

In its compilation free use has been made of the current periodical literature, but subjects which are still in the controversial phase, are avoided.

Much thought has been given to the system of classification. The arrangement adopted follows in essentials the pharmacological system developed by Schmiedeberg in his *"Grundriss der Pharmakologie."*

The consideration of each drug is rigidly practical and includes a free discussion on its merits and contra-indications in various pathological conditions, its latitude of therapeutic action and the treatment of acute and chronic poisoning by the drug under review. The chemical aspect is by no means neglected and the relation of individual organic radicles to specific therapeutic action is indicated wherever such a relation has been established.

At the end of each monograph the author appends a list of preparations and doses culled from both the British and the United States Pharmacopœiæ together with a brief description of the more important chemical and physical characters of the drug.

In all essentials the book differs but little from other works on these subjects except in some of the hypotheses and explanations which represent the personal views of the author. There is, however, a continental atmosphere about the book which presents the subject from a slightly different standpoint and is both stimulating and refreshing.

PRACTICAL MORBID HISTOLOGY.

"Practical Morbid Histology" by Robert Donaldson has been printed as an aid to students in pathological work.[2] It contains a good description of the macroscopical and microscopical appearances of most of the commoner conditions. There are no illustrations and in spite of the excuses for their absence in the preface there is no doubt that the inclusion of these would make the book more useful and attractive to students. The subject is treated according to anatomical divisions and the descriptions of the macroscopical appearances of the various morbid conditions are accurate and full. These would be of great value to students. The chapter on the pathology of the kidney is arranged under the two headings of toxic and inflammatory conditions and is a good summary of the present position of knowledge. The oncological chapters are short but excellent and the writer follows modern teachings in limiting the extent of the endotheliomata and extending that of the carcinomata. There is a useful appendix in which histological methods are described, as well as an appendix descriptive of the commoner parasites. The book fills a great need and, used as a practical manual with typical sections, should prove exceedingly useful to all students or demonstrators.

[1] "A Text-book of Pharmacology and Therapeutics," by E. Poulsson, Christiania, English Edition edited by W. F. Dixon, M.A., M.D., F.R.S., Cambridge; 1923. London: William Heinemann (Medical Books), Limited; Royal 8vo., pp. xi. + 519, with 32 figures. Price: 25s. net.

[2] "Practical Morbid Histology: A Handbook for the Use of Students and Practitioners," by Robert Donaldson, M.A., M.D., Ch.B. (Edin.), F.R.C.S.E., D.P.H., with a Foreword by Sir Humphry Rolleston, K.C.B., M.D.; 1923. London: William Heinemann (Medical Books), Limited; Demy 8vo., pp. ix. + 364. Price: 15s. net.

The Medical Journal of Australia

SATURDAY, OCTOBER 20, 1923.

Medical Officers of Health.

The Representative Meeting of the British Medical Association adopted with one or two minor amendments the proposals of the Council concerning the cooperation of the Association with the Society of Medical Officers of Health. The matter was debated at the Portsmouth meeting on July 20, 1923. The Council is now authorized to amend the constitution of the Association in order that the whole-time medical officers of health may have direct representation on the Council of the Association and also on the Branch Councils. Those who have followed the development of this movement in the columns of *The British Medical Journal*, will realize that as a result of negotiations with the Society of Medical Officers of Health the Council has accepted a new principle and is prepared to alter its franchise in order to maintain for itself the function of looking after the special interests of a section of the medical profession. An unsuccessful attempt was made at the Representative Meeting to avoid an alteration of the constitution by the adoption of the general idea of cooperation without giving to the medical officers of health any specific representation. This opposition was based on the desire to oppose the granting of dual voting powers and of dual representation to even a small minority of members. It was pointed out that approximately eighteen hundred practitioners would be given representation of their special activities. The majority of the Representative Body determined that the Society of Medical Officers of Health should be relieved of medico-political duties by the British Medical Association. Those medical practitioners who are employed in the public health service, should look to the powerful organization of the British Medical Association to safeguard their interests and to secure for them satisfactory conditions of employment. In Australia the Branches of the British Medical Association have learned the value of combination and organization in dealing with the friendly societies.

The British Medical Association is now prepared to use its machinery to obtain adequate remuneration for the whole-time medical officer of health and reasonable conditions of service. At the same time the Association is insistent on the recognition of principle that where medical treatment of individuals is required, it shall, if possible, be carried out by general practitioners in their private capacity. The question of the cooperation between the mass of the profession and that portion of it that has to act on behalf of a central or local authority, has obviously been considered. In the report of the Council and in the negotiations that have been conducted up to the present, only preliminary measures have been discussed. The Society of Medical Officers of Health, having handed over to the British Medical Association the onus of taking all necessary medico-political action on behalf of this section of the profession, has freed itself in order that it may concentrate its energies on the special professional problems of preventive medicine. The members of this society who will be selected as representatives on the Council and the Branch Councils of the British Medical Association, will be in a position to keep these bodies properly informed in regard to the conditions of service of medical officers of health. A scale of salaries has already been drawn up and has received the approval of the medical officers of health. No doubt the British Medical Association will have but little difficulty in persuading the authorities to adopt this scale as an equitable one. The Council of the Association, with the representatives of the Society of Medical Officers of Health as members, will soon be faced with a task which will not be as easy. As the problems of the public health service extend in the direction of a direct attack on preventible disease, so the intimate cooperation between the medical officer of health and the general practitioner will become more and more urgent. That the service to be rendered by the general practitioner must be properly remunerated goes without saying. He will look to the public health authority for that remuneration, not on a salary basis, but as payment for work done. The work will necessarily be in connexion with his pri-

vate patients and he will be prepared to assist his departmental colleague in attacking disease, provided that he is not required to modify his relations with his patients. There is no doubt that the value of this collaboration between the private practitioner and the public health medical officers will depend on the facilities possessed by the former to persuade his patients to lend their aid in the campaign. Where a source of infection has to be traced and checked, the general practitioner is in the best position to discover it and to erect a barrier to its spread. When information is sought concerning the incidence of a particular disease in the various groups of the community, no one is better equipped that the general practitioner to collect the data. It may, therefore, be expected that while the cooperation between the British Medical Association and the medical officers of health is primarily intended to safeguard the individual interests of the latter, it will necessarily extend in the direction of professional cooperation. This means community interests.

Current Comment.

HETEROMORPHOSIS.

All investigators into the question of development and inheritance of the body of an animal must accept as a fundamental fact the statement that the single germ cell is in its essential nature identical with any one of the tissue cells of the body from which it has been derived. Huxley said that the germ cell was not merely a body in which life was dormant or potential, but that it was itself simply a detached portion of the substance of a pre-existing living body. With the commencement of segmentation development proceeds in a regular and orderly fashion. The complex nature of the processes involved, the universal conformity to type of the mature product of development and the still more extraordinary transmission of individual characteristics either from the generation immediately preceding or from one still more antecedent have led to the proposition of many theories in attempts to explain the associated phenomena. Whatever theory be accepted by observers, all will agree that in the process of segmentation and growth certain differences arise. The three germinal layers—ectoderm, mesoderm and endoderm—are laid down. The cells of these layers are differentiated into distinct types. In other words the fact of differentiation is accepted. When for some unexplained reason a variation occurs in the ordinary course of events, a change in structural appearance results. This change may be of such a pronounced type as to alter the whole shape and appearance of the individual or it may produce an abnormality which is discernable only on microscopical examination. The latter type of variation, heteromorphosis, has recently been studied by Dr. G. W. Nicholson.[1] Dr. Nicholson confines his attention to the heteromorphoses of the intestinal tract. He points out that the epithelium that lines the alimentary tract in man, may be divided into three types. These are first of all the squamous epithelium of the pharynx and œsophagus, the gastric epithelium which lines the stomach and forms the so-called upper cardiac glands of Schäfer in the œsophagus, as well as a variable number of the so-called lower cardiac glands in the lower part of the œsophagus. These cells are tall and columnar. They have no striated border and do not give the staining reactions of mucin. They are prolonged into the cardiac, fundal or pyloric glands. They do not give rise to goblet cells. The third type of epithelium is the intestinal type. The cells of this type are associated with the crypts of Lieberkühn and occupy the whole of the small and large intestine. They occur also to a certain extent in the stomach. They possess an external striated border, are readily converted into true goblet cells and give the staining reactions of mucin. Dr. Nicholson describes several instances of heteromorphosis. The first two specimens are a persistent vitelline duct two centimetres in length and a Meckel's diverticulum. Both these specimens on examination were found to be lined by mucous membrane of the gastric type. The mucosa of the Meckel's diverticulum was in a partially digested condition. This was regarded by him as being due to the presence of a secretion analogous to the gastric juice. In the specimen of the vitelline duct there was a formation somewhat resembling a pylorus. Dr. Nicholson concludes that the epithelium of the greater part of the vitelline duct in the embryo possesses the prospective potency to undergo differentiation into fundal and pyloric as well as intestinal epithelium. Dr. Nicholson's third specimen was an oval cyst of a pancreas which was removed from a woman, aged forty-nine years. In the compressed walls of this cyst were found either ordinary ducts or else small cysts lined by gastric epithelium. From these cysts branched gastric glands passed out to join the secreting epithelium and thus took the place of ducts. The pancreatic lobules supplied by these ducts were fully differentiated. In discussing the question of the nature of the cyst, whether congenital or acquired, Dr. Nicholson states that he holds the former to be the correct explanation. The reasons given by him are the obvious absence of recent inflammatory changes, the perfect state of differentiation of the heterotopic epithelium and its orderly blending with the parenchyma of the pancreatic lobules and the non-existence, so far as he is aware, of a similar anomaly of the pancreas. In connexion with this specimen the conclusion formed by Dr. Nicholson is that there is evidence to show that the cells of the pancreas retain during a period at least of the development of the organ the potentiality of those of the primitive duodenum to undergo

[1] *The Journal of Pathology and Bacteriology*, July, 1923.

differentiation into epithelium of the gastric as well as the pancreatic type. Dr. Nicholson's fourth specimen is that of the gall bladder. He demonstrates the presence of gastric types of cell in this organ and concludes that the power to produce glands of the gastric type is shared with the duodenum by the gall bladder. In the latter organ, however, it normally remains latent throughout life, but is readily roused to activity as a result of active proliferation in cholecystitis. The changes that lead to the formation of gastric glands in the gall bladder, are of two kinds, regressive and progressive. There occur to begin with active and extensive proliferation, evidenced by the formation of Luschka's tubes and their multiplication, secretion and storing within the cells of mucin in ever-increasing quantities and budding of tubular mucous glands. By these changes the epithelium of the gall bladder approaches a more generalized type. It has undergone a certain amount of de-differentiation. The culminating changes are of the nature of a re-differentiation. They consist in the cessation of active proliferation, the occurrence of nuclear changes, reduction of the basophile cytoplasm of the cells and reticulation of the bodies and the disappearance of stainable mucin from the interior of the cells. Dr. Nicholson found gastric types of cell in seventeen of thirty-six inflamed gall bladders. The fifth lesion described by him is a chronic tuberculous ulcer of the colon from a girl, aged nineteen years. Many gastric glands and islets of gastric mucous membrane were present. The change here is regarded by Dr. Nicholson as being due to atypical re-differentiation of the partly de-differentiated proliferated cells of the intestinal epithelium.

In discussing the heteromorphoses in general Dr. Nicholson states that the subject is inseparably bound up with the old discussion of preformation and epigenesis in the development and inheritance of the germ cell. He refers to this aspect of the subject in one of his interesting studies on tumour formation.[1] He professes his adherence to the epigenetic theory and regards every preformationist theory not only as not proven, but as reduced to an absurdity and thereby disproved. It may be as well to point out that the preformation theory is that according to which the embryo is predetermined in the sense that the egg contains definite areas or definite substances predestined for the formation of corresponding parts of the embryonic body. The principle embodied in this theory was first enunciated by His in 1874. According to the epigenetic theory cells do not undergo differentiation in accordance with what may be called predestination, but do so in accordance with a regular sequence of stimuli. If the latter view be correct, it is easy to understand that an alteration in the environmental conditions would produce an alteration in the development of the tissues. Dr. Nicholson regards the heteromorphoses which he has described, as supporting the epigenetic origin of cells.

In contradistinction to the theory put forward by His there was the idioplasm theory of Nägeli. According to this hypothesis it was not the cell itself through which inheritance was transmitted, but a particular substance, idioplasm, contained within the cell. The idioplasm was conceived as an extremely complex substance consisting of complexes of molecules, the micellæ, and the specific qualities of the idioplasm were due to the arrangement of the micellæ. Many leading biologists regarded the idioplasm as identical with chromatin. Attempts were made to bring these theories into some uniformity. All these attempts were based on Darwin's hypothesis that the germ cells contained innumerable ultra-microscopical organized bodies or gemmules each of which was the germ of a cell and determined the development of a similar cell during the ontogeny. De Vries in 1889 sought to bring Darwin's conception into relation with the theory of nuclear idioplasm by assuming that the gemmules of Darwin which he called pangens, were contained in the nucleus. The pangens were regarded not as cell germs but as ultimate protoplasmic units of which cells were built and were the bearers of particular hereditary qualities. Although the pangen hypothesis of De Vries is, like that of Darwin, really a preformation theory, it allows of the admission that development is to a certain extent epigenetic in its external features. Many variations have been suggested to all these theories and after all it must be recognized that the problem is and must remain unsolved. Even Dr. Nicholson admits that a theory of predestination must up to a certain point be accepted. He raises the question as to whether growth can ever be pathological in its essential nature. If it is believed that every effect, both structural and functional, has a cause and that the effect depends upon and varies with the latter, he fails to see how he can do other than adopt the view that every reaction is and must necessarily be physiological, since it is the only possible reaction to the given environment. Causes may be spoken of as abnormal or pathological in the sense that they are unusual. The effects are strictly physiological in the true sense of the word in every instance from the moment of the union of the gametes to form the zygote to the death of the latter in extreme old age. Up to this point he accepts of logical necessity the doctrine of predestination. He states that to argue that causes must be equally inevitable would be to leave scientific for metaphysical reasoning. This is doubtless a fact, but it is difficult to see how a discussion of such a subject can end otherwise.

Dr. Nicholson, after considering the theories of preformation and epigenesis, comes back to the point that there are no valid reasons against the view that heteromorphoses are produced by cells that were perfectly normal at one period of their life history. This statement regarded strictly appears at variance with his own views. He has been at some pains to show that the cells of the heteromorphoses are and always have been normal. It is the environment that matters.

The subject is extremely interesting and he discusses in turn the question of heterotopic malignant tumours. This aspect will be referred to in a subsequent issue.

[1] *Guy's Hospital Reports*, July, 1923.

Abstracts from Current Medical Literature.

DERMATOLOGY.

Pemphigus.

Frederick Eberson (*Archives of Dermatology and Syphilology*, August, 1923) has made an attempt to isolate an ætiological organism from patients suffering from chronic pemphigus. Whole blood and where possible uncontaminated blebs were used. Seven strains of organism were obtained. In one instance the organism was isolated from bullous lesions as well as from the blood. Organisms were found on culture in all instances investigated. They were culturally and morphologically similar. A group of controls fourteen in number comprised patients clinically free from pemphigus, but with *dermatitis herpetiformis*, psoriasis, oral and genital lesions, oral aphthous lesions and similar manifestations. Blood cultures were uniformly sterile in all. To establish the possible ætiological significance of this organism further studies are now in progress.

Syphilis of the Orbit.

Jarold E. Kemp (*Archives of Dermatology and Syphilology*, August, 1923) maintains that syphilis of the orbit is a rare manifestation. Only five out of about six thousand patients suffering from syphilis in the Johns Hopkins Hospital manifested this type of lesion. Four instances of this are reported and the author points out that the similarity of the clinical picture is very striking. All four patients had acquired syphilis some years previously. The duration of symptoms referable to the eye ranged from six months to three weeks. In two instances the onset was comparatively acute. The complaint was unilateral pain, referred to the affected eye and worse at night. In each instance there was unilateral exophthalmus together with some degree of paralysis of the extra-ocular muscles, ranging from weakness of a single muscle to complete *ophthalmoplegia externa*. Three or more patients had a more or less complete ptosis of the upper lid and in each instance the pupillary reactions were abnormal on the affected side. There was usually pain on pressure over the bulb. In three patients there was complete anæsthesia in the distribution of the first branch of the trigeminal nerve. In three there was a definite decrease of vision on the affected side. In one instance this was due to a choked disc, in the others it was probably due to pressure on the optic nerve.

Lymphangiomatous and Hæmangiomatous Nævus.

John H. Stokes (*Archives of Dermatology and Syphilology*, August, 1923) calls attention to an instance of lymphongiomatous and hæmangiomatous nævus associated with hypertrophy of the sweat glands and hyperidrosis on excitement. Physical examination of the patient revealed no abnormalities apart from a slight lengthening of the leg of the affected side. The pupil of the affected side (the left) was smaller than that of the right. The patches on the flank and leg were a port wine colour and exhibited centrally a papillomatous hypertrophy consisting of clusters of translucent grape-like vesicles. Patches of increased pigmentation were apparent at certain points. Throughout the affected region there was a distinct general increase in the amount and a definite coarsening in the hair as compared with the rest of the body. The condition responded satisfactorily to treatment by radium.

Blood Chemistry in Dermatology.

Edwin Pulay (*Archives of Dermatology and Syphilology*, August, 1923) discusses the importance of blood chemistry in all disorders of the skin. Nearly all groups of skin diseases have been investigated by the author and he has paid special attention to pruritus, eczema and urticaria. He has differentiated five groups of pruritus and has based his opinion chiefly on results obtained by chemical analyses of the blood. Uricæmia occurs in a large number of conditions. These he considers to be uratic in origin and are frequently associated with rheumatism, neuralgia, migraine, chronic constipation and gastro-intestinal disturbances. The underlying causative factor is a disturbance in the purin metabolism. A second form of pruritus closely related to the foregoing is vagotonic pruritus. This alternates with other manifestations of the vagotonic syndrome such as bradycardia, hay fever, asthma and urticaria. The blood in these conditions differs from the former in that there is a certain degree of hyperglycæmia. Other groups mentioned are those associated with disturbances in the kidneys and a small number of examples of universal pruritus he classifies as belonging to the neurogenous group. With regard to eczema he is of the opinion that it is an increased state of irritation of the vegetative system, the underlying causative factor being a disturbance in metabolism. The form in which it becomes visible on the skin is modified by the character of the irritation to which the skin is exposed. The constitutional factors are also important in this connexion, that is whether the subject is icthyotic or seborrhœic. Urticaria is divided into two groups, that caused by intoxication and that caused by albumin sensitization. The toxic group is further divided into septic-toxic forms and those due to acid intoxication. A small group of the former are characterized clinically by the lack of wheal formation and may be associated with chronic intoxication of a septic character such as suppurating tonsils. As a further result of his investigations he has been able to explain physiochemically all the symptoms common to the dermatoses mentioned such as pruritus, œdema and exudation. The disturbance and changed conditions due to chemical composition of the cells are important in this regard. The dislocation of the electrolytes or non-electrolytes eventually causes a disturbance in the balance of ions, while it also changes the osmotic pressure and swelling.

Lacqueur Dermatitis.

W. A. Pusey (*Archives of Dermatology and Syphilology*, January, 1923) reports an instance of dermatitis of the forearm and hands. The patient had been selling small canes carrying flags and pennants and the attack came on the following day. Tests made with an alcoholic extract of the lacqueur showed a large inflammatory wheal. In the control tests no reaction was produced. Lacqueur is made from the Japanese lacqueur tree *Rhus vernicifera* and has been recognized as a cause of dermatitis in China and Japan for over a thousand years. The attack yielded quickly to aluminium acetate solution.

Lupus Erythematosus.

Knowlsley Sibley (*The Medical Press and Circular*, May 30, 1923) suggests that *lupus erythematosus* is an external expression of an internal constitutional disturbance. The old theory that *lupus vulgaris* was due to the presence of tubercle bacilli in the skin and *lupus erthymatosus* the result of a general toxæmia from the tubercle bacillus in some other part of the body has, he asserts, been given up. The disease is essentially a toxic erythema and far more closely allied to the *erythema multiforme* group than to the lupus group. The treatment should be both internal and external. Septic foci should be removed and autogenous vaccines administered. Local applications should be non-irritating. Ultra violet rays, high frequency and other electric treatment, if used, should only be attempted in the indolent and never in the acute stage.

Helio-Therapy in Psoriasis.

Harry E. Alderson (*Archives of Dermatology and Syphilology*, July, 1923) records his experiences in treating a large number of patients with psoriasis with the quartz lamp. He finds this to be a very satisfactory and cleanly method. He believes it to be preferable to X-rays as recurrences appear to be delayed longer after successful treatment with ultra-violet light. It appears to be especially useful in the treatment of psoriasis of the scalp and is devoid of the danger of alopecia associated with the use of X-rays. It is essential for the satisfactory treatment of the lesions that any underlying abnormal condition of the body should receive adequate treatment. Such lesions are suppurating tonsils or other sources of septic absorption. The scales are removed in an alkaline bath assisted by keratolytic agents. When the scales have been successfully removed the lesions are ready for the applications of ultra-violet light.

RADIOLOGY.

Pulmonary Tuberculosis.

FRANK S. BISSELL (*American Journal of Roentgenology*, June, 1923) compares the clinical and skiagraphic findings in pulumonary tuberculosis. Close cooperation is necessary between the lung specialist and radiologist in the diagnosis of pulmonary tuberculosis. Careful observation and conservative interpretation of physical signs, temperature and pulse and reaction to tuberculin should produce a correct diagnosis. The author points out the necessity for the production of skiagrams of the best quality for a standardized technique and also the necessity of interpretation by a man of large experience in radiology of the chest. Clinicians should make available all known data to the radiologist who should then be in a position to confirm, refute or supplement the clinical findings. Tuberculous lesions take the form of fine tubercle-like shadows sometimes in the form of small conglomerate patches. Active lesions usually have a cloudy appearance and there is no normal lung between them and the hilum. Healed lesions are less cloudy and the lung area around them appears relatively normal. However, it is safer to determine activity by clinical signs and confine the radiological report to stating the site and extent of the lesion. Various types are described. Type A is the so-called concealed type and the prognosis is favourable as to life, but less favourable to complete recovery of health. Type B is a more obvious tuberculosis with typical clinical history and fibrosis without cavitation, prognosis being favourable. Type C represents those conditions with an early tendency to cavitation and is unfavourable. Type D includes conditions with characteristic scars, broken linear markings, calcification *et cetera*. When definite reports cannot be given an indeterminate report may be of value to the clinician. Complications after influenza, broncho-pneumonia, bronchiectasis and so forth may all be recognized by X-ray examination.

Bone Tumours.

R. W. HUTCHINSON discusses the X-ray diagnosis of bone tumours (*United States Medical Bulletin*, June, 1923). Several points must be considered in diagnosis. Sarcoma more frequently occurs in young people, malignant disease of the pelvis may be secondary to malignant disease of the prostate or breast, cartilage is very resistant to new growth and hence lesions involving cartilage are more likely to be due to infections or trauma than new growth. In diagnosis an attempt should be made to discover the point of origin, whether cortical, medullary or periosteal. Carcinoma is never periosteal as a primary lesion, but usually occurs near a nutrient foramen as a secondary growth. Sarcomata usually occurs near the ends of the long bones. Benign tumours tend to expand the cortex while malignant growths destroy it and grow in all directions. Carcinoma never produces new bone, nor do round-celled, spindle-celled or giant-celled sarcomata. New bone in a malignant lesion is usually laid down perpendicularly to the shaft and in benign lesions parallel to the shaft. Infiltration and invasion of the soft tissues can often be demonstrated. Spontaneous fractures are common in carcinomata. The malignancy of sarcomata varies inversely with the size of the cells. Round-celled sarcoma is very malignant. Periosteal sarcoma is very malignant and of rapid growth and small radiating lines of calcium deposit may be seen extending radially into the tumour; the cortex becomes destroyed at a later stage. In osteosarcomata the amount of new bone formation is considered to be a guide to its malignancy. Giant-celled sarcomata are almost benign and show no tendency to metastasis; they expand and destroy the cortex and show no tendency to form new bone.

Deep X-Ray Therapy.

J. T. CASE (*The American Journal of Roentgenology*, September, 1922) contributes a paper on the technical and clinical aspects of the new deep X-ray therapy. He considers pre-operative radiation of great importance, as the activity of the malignant cells is reduced and there is litlte risk of dissemination at operation. Radiation is looked upon as a major surgical procedure and the patient is prepared by rest in bed, attention to the eliminative processes, diet regulation, blood and urine examination and transfusion, if necessary. Fluid is given in quantity and morphine is administered before the dosage. By this means the tendency to nausea is greatly decreased. The author attempts to deliver 120% skin erythema dose in carcinoma and 70% skin erythema dose in sarcoma. He does not always administer the complete dosage at one sitting, but completes it within two or three days. At present he delivers a dosage of eight hundred milliampère-minutes at two hundred kilovolts at fifty centimetres distance and with a filter of one millimetre of copper through four ports of entry. Unless this massive dosage has done good within six or eight weeks, it is not likely that the condition will yield to a repetition of the dosage. The author covers the patient, except where radiated, by "grounded" protective material, as he does not consider the usual protection sufficient.

Gall-Bladder Radiography.

B. R. KIRKLIN (*American Journal of Roentgenology*, November, 1922) pleads for more careful work in the examination of gall bladder conditions. Even when the gall-stones are not visible, it is frequently possible to demonstrate the enlarged and thickened gall-bladder; the normal gall-bladder does not cast a shadow. In addition to direct evidence much information can be gained from an opaque meal examination. There may be signs of pressure on the stomach or duodenum or possibly displacement of these organs or of the jejunum or hepatic flexure of the colon. Adhesions of the stomach and duodenum cause fixation and distortion of outline. There is increased gastric motility when cholecystitis is present. Before radiography the patient is given an aperient of compound liquorice powder for three nights and must not take food on the night before or breakfast on the morning of examination. Two to four exposures are made of the gall-bladder region with varying penetration, the films being all developed for the same time. A barium meal is then given and a search made for indirect signs. For the direct gall-bladder examination, the Potter-Bucky diaphragm is used.

The Colon and Arthritis.

R. G. TAYLOR (*American Journal of Roentgenology*, June, 1923) describes a series of observations on the gastro-intestinal tract of persons suffering from chronic deforming arthritis. A single meal is given and observations are made at once and at six, nine, twelve and twenty-four hours after ingestion and then every twenty-four hours until the meal has completed its course. If the lower bowel is not well demonstrated, an enema is given. In these patients the colon is characteristically of abnormal length and mobility. All patients in whom the condition is chronic present lesions in the right colon or ileum or both. These lesions consist of bands similar to Jackson's membranes with fixation of the caecum, colon, appendix or ileum. Most of these bands are congenital, but some are post-inflammatory. The presence of such bands "cripple" the intestine and produce definite local stasis proximal to the lesion. Surgical correction of the various deformities has given great relief in a considerable percentage of affected persons.

Carcinoma of the Small Intestine.

MILTON PORTIS AND SIDNEY PORTIS (*American Journal of Roentgenology*, June, 1923) report two instances of carcinoma of the small intestine. They point out that this condition is very rare, comprising only about 3% of carcinomata of the intestine. In the early stages there are no symptoms. Occult blood in the stools is present even in early stages; loss of weight, anæmia, asthenia and vague abdominal discomfort occur with subsequent pain and the usual symptoms of obstruction with severe and prostrating vomiting. Visible peristalsis occurs in the obstructive stage and a palpable tumour is present. The presence of a normal stomach and duodenum will rule out these organs as a possible source of occult blood. The duodenum and bowel proximal to the lesion may be dilated and filled with gas and fluid. Both the authors' patients were submitted to operation and the growths proved to be malignant infiltrations of the usual cylindrical intestinal type.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE WESTERN AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Perth Hospital on August 15, 1923, DR. D. M. MCWHAE, C.M.G., O.B.E., the PRESIDENT, in the chair.

Fibro-Myoma.

DR. J. J. HOLLAND showed a specimen consisting of a pregnant uterus which had been removed from a woman, aged forty-two years, who had complained of inability to pass urine for two or three days. Prior to the operation one hundred and twenty cubic centimetres of urine had been withdrawn from the bladder by catheter. Attached to the uterus was a fibroid growth. The organ had been incarcerated in the pelvis. It contained an ovum about eight weeks old.

Ectopic Gestation.

DR. R. C. E. ATKINSON read a letter from Dr. John Kenny, of Roeburn, in which the writer described a case of ectopic gestation. The patient had been admitted to hospital on June 9, 1923, with severe abdominal pain and a tumour in the abdomen. The pains had been coming on every night for two months. They had lasted from one to three hours. They had caused distress. Examination had revealed a small fibroid growth in the rectal wall. A transverse presentation of a fœtus had been suspected. Under anæsthesia it had been found that the uterus was empty. Ectopic gestation had been diagnosed. Two days later an operation had been performed. A living fœtus had been removed from the sac which had been grafted on the intestine and omentum. The fœtus weighed between 2,250 and 2,750 grammes. It lived for twelve hours. It was slightly deformed and showed signs of considerable abdominal pressure. Packing had been carried out in the mother to control the hæmorrhage from the abnormal placental site. A considerable portion of omentum had been removed to arrest the bleeding. She was improving. The abdomen was still being drained. On the sixteenth day Dr. Kelly was unable to state whether the patient would recover or not.

Puerperal Infection.

DR. A. J. NYULASY read a case report of a case of puerperal infection with spontaneous fæcal fistula (see page 411).

Gastric Spasm.

Dr. Nyulasy also read notes of a patient's condition which had been diagnosed as gastric spasm (see page 412).

Modification of Thomas's Splint.

DR. A. JUETT demonstrated a modified form of Thomas's splint in screwed sections that had been made at the Railway Workshops at Northam to the design of Dr. K. G. McK. Aberdeen. The splint had been designed as a long Thomas's splint, or a Thomas's splint for the knee joint. It could also be employed for the arm or as an internal angular splint for the arm.

Mastoiditis.

DR. T. L. ANDERSON showed a patient who had been operated upon for mastoiditis.

Blood Grouping.

DR. F. J. CLARK read a paper on blood grouping (see page 401).

DR. K. G. MCK. ABERDEEN gave some details of the transfusions he had carried out. He pointed out that this could be done in the country in spite of adverse conditions. He thanked Dr. Clarke for the clear and concise way in which he had described the method of blood grouping.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Royal North Shore Hospital of Sdney on August 10, 1923, DR. T. W. LIPSCOMB, in the absence of the President, in the chair.

Death of Dr. Rennie.

Before the commencement of the proceedings DR. LIPSCOMB announced that Dr. George Edward Rennie had died that morning. He referred in terms of deep gratitude to the debt he and other former students of Dr. Rennie owed to him. His death was a disaster to the medical profession. He asked those present to pass a vote of condolence to Mrs. Rennie and the other members of the family. This was done, all members standing in silence.

Purulent Pyelitis.

DR. F. GUY GRIFFITHS presented a patient who was suffering from purulent pyelitis. The patient was a single woman, aged twenty, a typiste. She had been admitted on February 21, 1923. During the nine days preceding admission she had had several shivering attacks. As she had felt ill she had gone to bed and had vomited. There had been no diarrhœa, but the bowels had acted well. There had been no frequency or pain. On examination it was found that the patient was febrile, the temperature being 39.4° C. (103° F.), the pulse-rate 104 and the respiration 20. The first sound over the mitral area was roughened and the second over the aortic area accentuated. There were no physical signs in the abdomen, the tongue was furred but moist. The urine contained albumin, was alkaline in reaction and its specific gravity was 1,022. The patient had been treated for enteric fever until March 24, 1923, notwithstanding the fact that her serum had not agglutinated typhoid or paratyphoid bacilli. The temperature had not sunk below 37.8° C. (100° F.) and at times had reached 38.9° C.. On March 3, 1923, a catheter specimen of urine had been examined. It contained red blood corpuscles and leucocytes and motile organisms which proved to be *Bacillus coli communis* on culture. Two days later the Widal test was again carried out, but no agglutination was obtained. *Bacillus paratyphosus B* was recovered from the stool, but no *Bacillus typhosus* or *Bacillus paratyphosus A*. The blood contained 9,000 leucocytes per cubic millimetre. Of these 64.6% were neutrophile cells, 33.4% lymphocytes, 1.0% large mono-nuclear cells, 0.5% basophile cells and 0.5% eosinophile cells. On March 19, 1923, the urine was found to contain a large number of red blood cells and of pus cells, some uric acid crystals and epithelial cells. The bacteria recovered by culture were staphylococci and *Bacilli coli communis*. The patient had had persistent hectic fever with occasional rigors, but had been bright and had not complained of pain. The pus and bacteria disappeared from the urine from March 26, 1923, until April 25. At this time the leucocytes numbered 22,500, of which 80% were neutrophile cells. On May 18 a vaccine of *Bacilli coli communis* had been given in doses of fifty millions. The dose had been increased at intervals of about four days until on July 7 it had reached four hundred millions. The temperature had been lower while the vaccine had been injected, but on July 11 it had twice risen to 39.4° C. and the patient had felt ill. At this time the urine had a specific gravity of 1,012; its reaction was acid; it contained one-eighth albumin, a small amount of pus and some blood. The vaccine injections had been discontinued until July 24 when the first dose was two hundred millions. The temperature gradually came down to normal. On July 31, 1923, the patient was being treated with the acid phosphate of sodium given after meals and "Hexamine" between meals. Citrate of potash had been tried from time to time, but the patient appeared to be better with an acid mixture.

Pneumococcal Empyema.

Dr. Guy Griffiths also presented a miner, aged thirty-nine years, who had been admitted to the hospital on July 26, 1922, and who had been shown at the meeting of the New South Wales Branch of the British Medical Association at the Royal North Shore Hospital on October 13, 1922. At that date the diagnosis of chronic pneumonia had been given, with some reservation (see THE MEDICAL JOURNAL OF AUSTRALIA, December 2, 1922, page 657). Dr. Griffiths amplified the report by giving the

results of X-ray examinations. On August 14, 1922, the radiographer in his report had stated that the appearances on the right side suggested tuberculosis. The left side had been almost universally opaque. This suggested tuberculosis with possible consolidation of the upper third of the left lung. On September 15, 1922, the radiographer had found that there was almost certainly tuberculosis of both lungs with additional opacity on the left side, suggesting extensive pleuritic thickening and perhaps some fluid. On September 22, 1922, the patient had been examined with the aid of the fluorescent screen. No evidence of any fluid in the pleural cavity had been detected at this examination. The appearances had been those of pneumonoconiosis and tuberculosis. On October 13, 1921, the radiographer had again reported that the heart was displaced to the right and that there was a definite opacity on the left side. Some mottling in the upper part of the right lung suggested tuberculosis. Up to this time the clinical diagnosis had been encysted empyema, but as there had been no rigor, as the fever was subsiding and as the patient's health was improving, the radiographer's diagnosis was accepted. On December 1, 1922, a further skiagraphic examination had been made. The radiographer had reported that there was a large area of dulness in the left side of the thorax from 2.5 centimetres below the clavicle to half-way to the diaphragm. This was limited mainly to the chest wall. The appearance was that of a large abscess spreading under the skin, limited by the thickened pleura or was that of a localized empyema. An abscess had meanwhile pointed in the second left intercostal space and from it pus had been obtained by exploration. A pure culture of pneumococcus had been obtained. Dr. Doak had seen the patient, but had been loath to undertake an extensive operation. He had contented himself with a small incision through which the pus had been evacuated, apparently from the collection immediately beneath the chest wall. No sinus had been found leading to the interlobar region. A sinus had continued to discharge until early in February when the patient had suffered from an attack of acute streptococcic erysipelas over the front of the left side of the thorax. He had also had a secondary pneumonia at the base of the right lung. He had responded to injections of anti-streptococci serum and had gradually improved. The discharge from the sinus had lessened and healing had occurred about June 12, 1923. The radiographer had issued his last report on April 20, 1923. He again had stated that there was extensive tuberculosis of both lungs. He had also stated that there was no pneumothorax. Further examinations had been carried out of the sputum, but no tubercle bacilli had been found, although over thirty specimens had been examined. The patient had had a slight bronchitis while he had been convalescent at the Thomas Walker Hospital. He had improved since and at the time of the meeting had little or no evidence of pulmonary disease beyond the slight scarring.

Primary Epithelioma of the Bronchus.

Dr. Guy Griffiths also exhibited some specimens from a patient who had died of primary epithelioma of the bronchus with secondary growths in the arm and elsewhere. A full report of this case will appear in a subsequent issue of the journal.

Myeloid Sarcoma of the Ulna.

DR. LINDSAY DEY'S patient was a married woman, aged eighty-two years. In November, 1922, the patient had noticed a slight pain and some intermittent swelling of the wrist. The swelling had increased until the end of June when the wrist became extremely swollen after she had done her washing. Later the swelling had decreased and still later it had increased. As she had heard it crack, she had sought medical aid. There was no history of an injury. The patient stated that her sister had suffered several spontaneous fractures of the ribs prior to her death. She had a cousin whose bones were said to break very easily, but he was a jockey. The condition of the patient's arm was a myeloid sarcoma of the ulna with a pathological fracture.

Cleft Palate.

DR. E. M. HUMPHERY presented a patient on whom he had performed three operations for cleft palate. The child was nine months of age. On May 24, 1923, he had made an incision around the alveolar margin and had resected the mucous membrane. The edges of the palate had been brought together with silkworm gut sutures. On June 20, 1923, Dr. Humphery had pared the edges of the cleft palate and had made two lateral incisions through the palate. The cleft had then been closed by means of four silver wire sutures. On July 19, 1923, he had freshened the edges of the palate. The *os incisivum* and the two lateral incisions had been removed. The edges of the palate had been brought together with three wire sutures. The notch to the hare lip had then been undercut, the edges brought together and three wire sutures had been inserted. On August 7, the prominence of the upper lip was being absorbed. The mouth was clean.

Endothelioma of the Stomach and Colon.

Dr. Humphery's second patient was a woman, aged forty-nine years, who had been admitted to hospital on June 4, 1923, complaining of abdominal swelling which had first been noticed eight months previously. The swelling had begun in the lower segment of the abdomen. There had been no pain, except but one month before admission. The patient had noted that the swelling had increased more rapidly in size during the two months prior to admission. Her general health and her appetite had been good. She had been constipated. She had had jaundice on several occasions. On admission the abdomen had been soft and a palpable tumour had been felt in the right hypochondrium. It was slightly tender on deep palpation. A second tumour had been felt in the right iliac fossa. This was freely movable. Three days later Dr. Humphery had operated. An incision had been made in the middle line and the abdomen had been opened. The liver and the gall bladder had been found to be normal. A large oval mass was seen to occupy the abdominal cavity. It was movable. It was bound down to the anterior abdominal wall by adhesions and also to the surface of the stomach and the upper surface of the transverse colon. The adhesions had been freed. While this was being done the outer coat of the stomach and of the colon had been cut away. The peritoneum had then been sutured with silk. Several smaller masses of a similar appearance had been found distributed throughout the omentum. These had not been removed, as they were held to be calcified lymphatic glands. Recovery from the operation had been uneventful. The tumour was examined and was found to be an endothelioma, partly composed of a fibrous tissue stroma with clumps of flattened or polygonal cells. These had apparently arisen from the serous endothelium of the peritoneum. In another part of the tumour there were large numbers of small, round apparently calcified bodies of varying size. These structures were embedded in the connective tissue stroma as well as among the endothelial cells. The particles resembled those seen in psammomata of the brain. Dr. Humphery pointed out that it had been demonstrated that calcification could occur in endotheliomata in situations other than the brain. Investigation was still proceeding in his case in order to establish the actual nature of the opaque bodies. Dürck had mentioned that endotheliomata were not uncommon in the pylorus of the stomach. A full description of this case will be published in a subsequent issue.

Excision of the Astragalus.

A labourer, aged sixty-five years, had been admitted under the care of Dr. Humphery on February 14, 1923, on account of a septic affection of the left foot. The foot had been swollen and blue and hot to the touch. Fluctuation had been elicited in front of the ankle. An incision had been made and pus had been evacuated. A counter opening had been made below the lateral malleolus and a gauze wick had been pulled through the wound. On February 16 a skiagram had revealed the presence of periostitis of the lower third of the tibia and osteomyelitis of the astragalus with a dorsal sequestrum. Osteo-arthritis of the tibio-fibular joint had also been

recognized. On March 23 an incision ten centimetres in length had been made down to the bone in front of the ankle. A counter opening had been made below the medial malleolus. The head of the talus had been curetted and two rubber tubes had been inserted. During the following twelve days much pus had been evacuated from the tender, fluctuant swelling below the medial malleolus. Three weeks later a tourniquet had been applied above the knee and an incision twenty centimetres in length had been made medially along the foot. The astragalus, half the navicular and part of the cuboid bones had been removed. The bones had been scraped and the wound packed with menthol-glycerine gauze. The wound had been closed with silk and horsehair sutures. The patient's condition had gradually improved and on August 2, 1923, there had been only two small sinuses discharging a little saneous fluid. The sinuses had been curetted and packed with menthol-glycerine gauze. On August 7 the wounds were healed and the patient was able to walk.

Cystoscopy.

Dr. R. J. Silverton gave demonstrations in cystoscopy on two patients. Each examination lasted for about one hour and a large number of members inspected the interior of the bladder. Both patients, however, were able to leave the hospital immediately after the meeting. This demonstrated the value of the small calibre examining cystoscope of the prismatic type. Dr. Silverton explained that with this style of instrument the practitioner should be able to increase his diagnostic powers in affections of the urinary organs with comparative ease. The first patient had left the hospital two weeks previously, after having undergone the operation of supra-pubic prostatectomy. At the time of the demonstration he was passing urine three times a day and was not obliged to rise even once at night. The normal concave shape of the bladder was seen through the cystoscope and the vesical aspect of the healed supra-pubic fistula was also seen. The second patient had suffered from papilloma of the bladder. Two diathermy treatments through the cystoscope had cured the lesion. There was only a minute tag of hypertrophied mucosa surrounding the left ureteral orifice remaining. The papilloma had originally sprung from this area. The treatment had been carried out one year previously. An important point was that the burning, though close, had caused no sclerosis of the ureteric orifice. The orifice was opening and closing in a perfectly normal manner.

Phenol-Sulphone-Phthalein Test for Renal Efficiency.

Dr. Silverton also gave a demonstration of the phenol-sulphone-phthalein test for renal efficiency. The technique was very simple and the test was completed in a couple of minutes. He held that the colorimeter, notwithstanding the claim that it was essential, was inferior to the use of two test tubes of equal calibre. The 100% standard solution could be diluted with urine as well as with water in these tubes and a perfect matching of colours could be obtained. The test was of the greatest value in measuring the total function. With ureteric catheters it was still the best single test, but unfortunately technical errors were apt to creep in, such as that caused by the presence of blood and extra-catheter leakage. This falsified the result.

Paget's Disease of Bone.

Dr. S. Scougall presented a patient, a plumber, aged sixty-six and a half ears, the subject of Paget's disease of bone. About eight years before the patient had noticed that his right forearm was "bending." Four years later the left leg had been similarly affected. Two years later the left forearm and the right leg had been attacked in the same way. The patient had lived in Sydney all his life and had been a plumber until recently. Of all the affected bones the right radius showed the greatest curvature, the convexity facing the dorsal aspect. The curvature was similar but less severe in the left radius. The bowing of the tibiæ was forwards in the lower two-thirds, but there was an outward bend just below the head of the bone. Skiagrams taken in July, 1923, were compared with those taken two years previously. The progress of the disease was readily seen in this manner. Neither the cranium nor the spine had been affected. Dr. Scougall pointed out that the greatest bowing in the right radius was interesting, in view of the hypothesis that weight-bearing was a factor in the bending of the bones. His arms had been subjected more to traction than to weight-bearing through continual carrying of loads. The skiagraphic appearances revealed thickening of the compact tissue and a longitudinal arrangement of the bone striæ. These changes pointed to the condition of *osteitis deformans* (Paget's disease).

Perthes's Disease.

Dr. Scougall next showed a patient, aged six and a half years, who had been treated for an injury to the hip when six months of age and had been kept in bed for six weeks. Since the child had begun to walk, a slight limp had been noticed. This had been the only symptom during the succeeding six years. The child had not complained and had usually "raced about all day long." There was limitation only of the extreme degrees of abduction, internal rotation and extension. The greater trochanter was felt well above Nélaton's line. There was 2.5 centimetres of shortening of the limb. Tuberculous disease of the hip was excluded by the comparative absence of limitation in function. The diagnosis, therefore, lay between Perthes's disease, *coxa vara*, fracture of the neck of the femur and injury to the epiphysis. The appearances in the skiagram decided in favour of Perthes's disease. There was an irregular deficiency of lime salts with absorption of the epiphysis, which had become compressed and "mushroomed" against the acetabulum. Similar changes had led to a shortening and thickening of the neck and a diminution of the angle between the neck and the shaft of the femur. The acetabulum had undergone similar changes.

Dun's Stabilization in Flail Foot.

Dr. Scougall showed a child, aged ten years, who had had extensive anterior polio-myelitis at the age of seven and a half years. The child had been under continuous treatment from that date. Dun's operations for the stabilization of the foot had been carried out. At the time of the meeting the child was wearing a plaster of Paris casing in which it was able to walk.

Rodent Ulcer Treated by Diathermy.

A patient, aged seventy-four years, had been sent to Dr. Scougall by Dr. E. Temple Smith with a rodent ulcer involving the outer canthus of the left eye, adherent to the bone. The extent of the ulcer was 1.1 centimetres. Treatment by means of diathermy had been carried out seven weeks previously. The eye-ball had been protected by slipping over it a thin rubber sheet. The diathermy had been applied to an area having a transverse diameter of 2.4 centimetres and the tissues had been coagulated. The slough had separated on the sixth day without bleeding. A large hole had been left which had filled rapidly with granulation tissue. The bone had not been attacked. The scar was smooth and adherent to the bone. Dr. Scougall proposed to supplement this treatment by exposure to X-rays.

Albee's Spinal Graft.

A woman, aged twenty-seven years, had come under the care of Dr. Scougall when she was in the sixth month of pregnancy on account of pain in the back. Careful examination had revealed some spasm of the muscles on either side of the lower thoracic segment of the spine. No abnormality of contour of the spine in this region had been detected. There was no history of tuberculosis in any member of the patient's family. A skiagram had been prepared and the diagnosis of tuberculosis of the two lowest thoracic vertebræ had been made from the appearances of the shadows. Conservative methods had been adopted. The patient had elected to lie in bed rather than to wear a fixed support. She had subsequently been confined without difficulty. She had been told to present herself four weeks after the labour, but failed to do so until seven weeks had elapsed. At this time there had

been a pronounced angular kyphosis. Further destruction of the same vertebræ was detected in the skiagram. Operation had been performed two months after the confinement. A graft had been taken from the tibia of sufficient length to reach from the vertebræ above the affected bone to the vertebra below it. The graft had been bent by means of several partial cuts. Both wounds had healed by first intention. Skiagrams were exhibited to demonstrate the position of the graft and its relations to the several vertebræ. It was seen that it had become fractured, but that the fractured end were lying in contact with one another. Dr. Scougall raised the question whether this operation had ever been performed during pregnancy and, if so, at what stage.

Fibro-Cystic Disease of the Trochanter.

A boy had been treated at a country hospital in 1920 for some months "with weights on to the leg." A year later an operation had been performed for an abscess near the hip joint. Later the child had been brought to the hospital on account of a limp which had become more apparent during the three previous weeks. The child was seven years of age. There were eighteen millimetres of shortening but no limitation of movement. A skiagram was exhibited from which it was seen that the trochanter and neck of the femur were involved in a process of fibro-cystic disease.

Pathological Exhibits.

Dr. W. W. Ingram exhibited a series of gynæcological specimens, including one of a ruptured ectopic gestation, one of a fibro-myoma of the uterus and one of an ovarian cyst. Another specimen was a cervical fibroid tumour the size of a fœtal head. The other exhibits included a fine series of macro-sections illustrating morbid conditions of the eye which had been presented to the Pathological Department by Dr. Temple Smith. There was also a primary cancer of the lung with secondary deposits in the arm and mesentery, a polycystic kidney and a congenital hernia of the small intestine through an opening in the mesentery.

Skiagrams.

Dr. H. R. Sear and Dr. W. B. Dight exhibited numerous skiagrams of interesting conditions, while Dr. F. W. Doak showed a good pyelogram.

Uterine Fibro-Myoma.

Dr. J. L. T. Isbister presented a patient, aged forty-eight years, who had had uterine hæmorrhage for eight months. There was dysmenorrhœa and an intermittent, watery discharge. The patient had had three children, the first twenty-four years previously and the last sixteen years previously. She had had several miscarriages. Vaginal examination disclosed some laceration of the *cervix uteri*. The uterus had been in good position and had been hard and movable. A small fibroid tumour had been attached to the anterior surface. The body of the uterus had been slightly enlarged. Dr. Isbister had performed total hysterectomy from which the patient had recovered without untoward happening. There was a sub-mucous fibro-myoma growing from the *fundus uteri*. The tip was blood-stained.

Dr. Isbister also exhibited a large central cervical myoma which had filled the pelvis and had almost presented externally at the vulva. When he had examined the patient through the vagina the tumour had felt like a vertex presentation in the second stage of labour. It had so completely obliterated the vaginal fornices that it had been impossible to make a satisfactory examination. The lowest point had been somewhat necrotic. The patient had complained of severe menstrual bleeding and some vaginal discharge. The tumour had been fixed in the pelvis. Dr. Isbister had opened the abdomen and had found the uterus perched on the summit of the tumour like the adrenal gland on the upper pole of the kidney. The uterus had contained a few small fibro-myomata. The cervical myoma had filled the pelvis completely. It had been impossible to introduce the index finger into the true pelvis. It had been removed by reflecting the peritoneum and bladder anteriorly as far as possible and then by making a transverse incision twenty centimetres in length into the capsule of the tumour. The myoma had then been shelled out. Some difficulty had presented itself during this process on account of the inflammatory adhesions around the lower segment. Even after it had been freed, there had been difficulty in the delivery, as it had filled the true pelvis very tightly. The method described in Berkeley and Bonney's text-book had been employed. Comparatively little hæmorrhage had taken place. After the removal of the myoma, a good view of the parts had been obtained. It had then been seen that the tumour had distended the upper part of the vagina to a very great extent. The mucous membrane had been found to be pitted and roughened by the pressure. Recovery had been uneventful.

Ruptured Ectopic Gestation.

Dr. Isbister also placed on view a ruptured ectopic gestation. The patient had been seized with a sudden attack of cramp-like pain in the abdomen, followed by vomiting. The last period had been three days overdue and had lasted for seven days. There had been diffuse abdominal tenderness and some dulness in the flanks. There had also been tenderness in both lateral fornices. A boggy mass had been felt in Douglas's pouch. The abdomen had been opened and the cavity had been found full of blood. A ruptured ectopic gestation of the left tube had been found. The tube had been removed. The patient had recovered without unfavourable symptoms.

Inflammatory Tumour of the Tibia.

Dr. E. L. Hutchinson presented a patient, a labourer, aged thirty years, who had been admitted to hospital on May 29, 1923, complaining of swelling of the left leg. Seven weeks previously he had noticed that his tibia was swollen and a little painful. Since then the leg had become progressively more painful and swollen. Some tender swellings had appeared in the left groin. On examination it had been found that there were soft, discrete enlarged lymphatic glands in the groin. The patient had had enteric fever twice; the second attack had occurred in 1916. In 1911 he had fractured his left leg in the lower third. A swelling over the right tibia had followed a blow. This had been due to an abscess. The patient had been born in Queensland and had lived there all his life. There was no history of a venereal infection. On examination it had been found that the left tibia was enlarged along the posterior border in the middle third. A large mass had been felt connected with the bone and projecting behind the muscles. An X-ray examination had been carried out on June 1, but the skiagram did not lead to a definite diagnosis. On June 6 the result of the Wassermann test had been reported. There had been no reaction. The pain had been less severe, but the patient's condition had remained unchanged. In June 15, 1923, Dr. Hutchinson had operated under ether anæsthesia given by the open method. A longitudinal incision had been made along the medial surface of the left tibia. It had been found that the bone was thickened and rough in its median and posterior surfaces. The periosteum covering the middle third was slightly thickened. A portion had been removed for histological examination, together with a superficial gland from the left groin. On the following day the pathologist had reported that in his opinion the condition was inflammatory. There was a considerable amount of inflammatory tissue present. The bone trabeculæ were separated by an overgrowth of fibroblasts. The vessels were thin-walled. It was difficult to exclude fibro-sarcoma, a low type of malignant growth. The specimen had then been referred to the Medical School for further study. At first it had been thought that it was a chondroma, but subsequently the opinion had been formed that it was an inflammatory growth with a tendency to a low type of malignant disease. On July 7, 1923, Dr. Sear had reported that the X-ray examination had become unsatisfactory on account of the operative measures. There was much fine new bone surrounding the shaft of the tibia, but he thought that this might have been due to new bone from the periosteum that had been lifted at the time of the operation. There was also a

small area of absorption in the centre of the shaft. Dr. Sear had been uncertain whether this had been the result of infection or of the operative interference.

Spastic Paralysis Following Trauma.

Dr. Hutchinson's second patient was a gardener, aged forty-eight years, who had been caught by a wire beneath the chin while riding a horse on May 29, 1923. He had stated that he had fallen on his hands and knees and, when he had tried to rise, he had been unable to move. He had not lost consciousness, but had lain for two or three hours before he had been picked up by the ambulance and transported to the hospital. The patient had been a heavy drinker at times and had been drinking before the accident. He had denied having had a venereal infection. On admission it had been found that the patient was somewhat dull, answering questions intelligently but in a truculent manner. He had lain with his neck held stiffly. The elbows had been flexed and the arms pronated. The legs had been extended. He had maintained that he could not move at all, but on close examination it had been found that he could flex his elbows, his right leg and thigh, although these movements were weak. There had been disturbance of sensation in the extremities, with anæsthesia over the ulnar border of the forearms. The response to stimulation had been slow. The elbow jerks and the knee jerks had been exaggerated on both sides. Babinski's reflex had been elicited on the right side, but was doubtful on the left side. The eyes had reacted to light and accommodation and the pupils had been equal. There had been more movement on the right side of the face than on the left. The tongue had deviated slightly to the left side when protruded. There had been slight ptosis on the left side. Some tenderness had been noted over the seventh cervical vertebra. His bladder had been distended, but a catheter had been passed with some difficulty. No other abnormal sign had been detected. On the following day the patient's condition had been unaltered; he had passed urine into the bed. On June 1, 1923, he had complained of much pain in his muscles. He had cried out and wished to be moved at short intervals. The pain had been relieved by morphine. The pain had persisted during the following six days when it had become less. On June 5, he had moved his left elbow and both legs to a slight extent. The improvement in movement had continued. On June 16 he had been able to move his neck freely and on June 10 he had had some voluntary power of the right deltoid. His forearms and hands had been placed in splints on June 11 to prevent the appearance of wrist drop. On July 7 there had been some contracture of the flexors of the wrist and elbows. On August 7 the patient had been able to move all the muscles of the left upper extremity except the interossei and *extensores carpi radialis et ulnaris* and of the right upper extremity except the intrinsic muscles of the thumb and little finger, the *extensor pollicis longus* and the *abductor longus pollicis*. When tested the muscles of the hypothenar eminence of the left hand and the radial extensors of the left wrist had contracted to the cathodal closure of a galvanic current. There had been no response to the current from Bristow's coil on the part of the left interossei. The response to the current from Bristow's coil on the part of the intrinsic muscles of the right thumb and of the right hypothenar eminence had been evident and that to galvanism of the *abductor pollicis longus* had been obtained.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been elected members of the Victorian Branch of the British Medical Association:

CAMERON, JOHN GLADSTONE, M.B., B.S., 1922 (Univ. Melbourne), 29, Holmes Road, Moonee Ponds.

HANDS, EDWARD WILLIAM, M.B., B.S., 1923 (Univ. Melbourne), Barnard Street, Bendigo.

KERR, KEITH GARDNER, M.B., B.S., 1923 (Univ. Melbourne), 15, Kinstore Street, Camberwell.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

A MEETING of the Senate of the University of Sydney was held on October 8, 1923.

On the recommendation of the Advisory Board authority was given for the appointment of Dr. John McKelvey as Lecturer in Clinical Surgery and Dr. V. M. Coppleson as Surgical Tutor at St. Vincent's Hospital.

The appointment of Dr. Keith Inglis as Lecturer in Pathology, Faculty of Medicine, was extended for a period of three years.

A letter received from Mr. L. R. Scholes, Honorary Secretary of the Dental Research Trust Fund, asking for the support of the University in the matter of founding a scholarship for dental research was referred to the Faculty of Dentistry for report.

On the recommendation of the Faculty of Medicine the following conditions for the award of the Peter Bancroft Prize were adopted: The Peter Bancroft Prize, founded in 1923 by a bequest of £1,000 from the late Louise Bancroft, of Brisbane, for an annual prize in memory of her husband, Mr. Peter Bancroft, M.B. The prize is awarded for the paper giving evidence of the best research work not previously published in medicine for the year. The prize is open to under-graduates or graduates in the Faculty of Medicine. The examiners for the prize shall be the Professor of Medicine and such other examiners as may be appointed by the Senate. No award shall be made unless the examiners shall certify that the record is of sufficient merit.

Amended regulations for the award of the Walter and Eliza Hall Fellowships in the Faculties of Medicine, Veterinary Science and Agriculture were adopted.

Dr. T. Farranridge was appointed Tutor in Surgery at the Royal Prince Alfred Hospital for one year.

Post-Graduate Work.

LECTURES IN MELBOURNE.

PROFESSOR C. J. MARTIN, F.R.S., delivered a series of four lectures at the Assembly Hall, Collins Street, Melbourne, on September 20, 21, 27 and 28, 1923. The lectures were arranged by the Melbourne Permanent Committee for Post-Graduate Work. The subject of the lectures was the disorders of nutrition.

At the first lecture the chair was taken by Sir John MacFarlane, Chancellor of the University of Melbourne. Professor Martin dealt with the physiology of nutrition and gave an outline of the metabolism of proteins, fats, carbo-hydrates and mineral salts. He discussed the essential nature of each of these food stuffs. The rôle of the vitamins or accessory food factors was briefly indicated.

The second lecture was concerned with a further discussion of the bio-chemistry of nutrition. Professor Martin dealt in detail with the equilibrium reaction in connexion with metabolism of the different kinds of food stuffs. He discussed the mechanism by which the carbo-hydrate content of the blood was kept at a constant level and explained how a similar balance was preserved in regard to the salts and the ultimate products of fats and proteins. He also explained the relative merits of the different food stuffs in their relation to the supply of energy and to the replacement of wear and tear. The subject of pellagra as a disease due to deficiency of specific protein was attacked in connexion with the proteins.

The third and fourth lectures were devoted to the subject of the vitamins, their physical properties and their distribution in nature. The effects of withholding accessory food factors from the diet of animals in the laboratory were illustrated. The lecturer demonstrated the influence of vitamin deficiency on growth, appetite and

resistance to bacterial infection. The fat-soluble vitamin A, the water-soluble vitamins B and C and vitamin D were dealt with in rotation. Professor Martin discussed at some length the experiments leading to the discovery of the anti-rhachitic vitamin D and showed that diet and sunlight were concerned in the ætiology of rickets.

Congress Notes.

THE AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION).

Contributions of Papers.

The Federal Committee of the British Medical Association in Australia adopted in February, 1922, regulations governing the conduct of sessions of the Australasian Medical Congress (British Medical Association). Regulation 13 deals with sectional meetings and includes the following paragraphs:

13. (*d*) Notice of all papers and exhibits to be presented at any sectional meeting shall be received by the Honorary General Secretary or Honorary Secretary of the Section not less than sixty days before the inaugural meeting of Congress. The Executive Committee may refuse to accept any paper or exhibit. In cases of emergency when due notice has not been given, the President of the Section may accept papers or exhibits.

13. (*e*) The text of remarks introducing a discussion and any paper that may be accepted and read shall be the property of the Federal Committee and shall not be published without the sanction of the Executive Committee except in a special volume of Transactions of Congres or in The Medical Journal of Australia. No paper shall be taken as read. Unless a paper is read, it shall not form part of the proceedings of Congress.

13. (*f*) All papers and reports submitted to any sectional meeting shall be handed to the Honorary Secretary of the Section before the close of such meeting.

Saturday, October 13, 1923, was the closing date for the reception of papers. It is unlikely that the Presidents of the Sections will accept papers as a matter of emergency unless good reason can be adduced to show that they could not have been offered at an earlier date.

Members will note that unless they attend personally and read their papers at the sectional meetings, these papers will not form part of the proceedings and will not be published in the transactions.

Resolutions of Sectional Meetings.

The Federal Committee has adopted a regulation in regard to resolutions of sectional meetings. If it appears to any Section that action should be taken in connexion with any matter which has been the subject of discussion at its meeting, any proposal for such action shall be referred to the Federal Committee and shall not be published in the lay press.

Membership.

Applications for membership should be made without further delay. It is essential that the Executive Committee should be in a position to make final arrangements and this can only be done if the number of those intending to be present is known.

Accommodation.

For the convenience of those who have not yet secured accommodation in Melbourne for the Congress week, we append a list of hotels at which rooms are still available.

House.	Address.	Persons to Accommodate.	Rooms.		Tariff.	
			Double	Single.	Per Day.	Per Wk.
Scott's	Collins Street West, Melbourne	26	6	14	23s.	
Windsor (formerly Grand)	Spring Street, Melbourne	200	—	—	20s.	
Carlyon's	Spencer Street, Melbourne	30	—	—	Single Room, 5s.; Double Rooms, 10s.; Meals as taken	
Union Club	Collins Street West, Melbourne	6	—	—	20s.	
New Treasury	Spring Street, Melbourne	20	—	—	16s.	£4 4s.
Port Phillip	Flinders Street, Melbourne	30	—	—	15s.	
Victoria Coffee Palace	Collins Street East, Melbourne	200	—	—	Single Rooms, 3s. 6d. and 4s. 6d.; Double Rooms, 6s., and 10s.; Meals as taken	
Federal Palace	Collins Street West, Melbourne	200	—	—	11s. 6d. to 20s.	
Cathedral Hotel	Swanston Street, Melbourne	12	—	—	10s. 6d.	£3 3s.
Esplanade (Carlyon's)	Esplanade, St. Kilda	6	—	—	20s.	
George	Fitzroy Street, St. Kilda	40	20	—	15s.	
Ritz	Fitzroy Street, St. Kilda	30	—	—	20s.	
Prince of Wales	Fitzroy Street, St. Kilda	30	15	—	13s. 6d.	
Beaconsfield	Beaconsfield Parade, St. Kilda	25	—	—	15s.	
Inverleigh	12, Acland Street, St. Kilda	11	4	3		
Victoria Hotel	South Melbourne	30	—	—		£5 5s. to £6 6s
Bridge Hotel	Mordialloc (15 miles by electric train)	14	4	6	12s.	£3 3s.
Hampton Hotel	Hampton (10 miles by electric train)	12	—	—	15s.	£3 3s.
Royal Terminus (Kemp)	Brighton Beach (9 miles)	10–12	—	—		£5 5s.
Beaumaris Hotel	Beaumaris (11 miles by motor to rail in November)	20	—	—	15s.	£4 4s
Mentone Hotel	Mentone (13 miles by electric train)	20–50	—	—	15s.	£4 4s.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

The undermentioned have been registered, under the provisions of *The Medical Act, 1912 and 1915*, as duly qualified medical practitioners:

Bruce, James Whitson Kemp, M.B., Ch.B., 1913 (Univ. Edinburgh), D.P.H., R.C.P.S. (Edin.), and R.F.P.S., 1920 (Glasg.), Roseville.

GOLDING, WILLIAM HENRY, M.B., Ch.M., 1923 (Univ. Sydney), Frederick Street, Balmain.
HAMILTON, ALEXANDER ROBERT, M.B., Ch.M., 1923 (Univ. Sydney), Roseville, Blue's Point Road, North Sydney.
LAMB, ANDREW CECIL, M.B., Ch.M., 1922 (Univ. Sydney).
MAITLAND, HERBERT LETHINGTON CHISHOLM, M.B., Ch.M., 1923 (Univ. Sydney), 147 Macquarie Street, Sydney.
MARTELL, HORATIO PERCY, M.B., Bac. Surg. 1889 (Univ. Melbourne), Hall Street, Bondi.
O'CONNOR, HORACE HERBERT, M.B., Ch.M., 1923 (Univ. Sydney), 1, Weldon Street, Burwood.
RILEY, BASIL WILLIAM BIRKENHEAD, M.B., Ch.M., 1923 (Univ. Sydney), Tullona, Park Road, Burwood.

VICTORIA.

THE undermentioned have been registered, under the provisions of the *Medical Act, 1915*, as duly qualified medical practitioners:

CROWNSON, SYDNEY RADISH, M.B., B.S., 1923 (Univ. Melbourne), 10, Gatehouse Street, Parkville.
FRAYNE, WILLIAM ROBERT GEORGE, M.B., B.S., 1922 (Univ. Melbourne), c.o. Mrs. Tyree, 10, Selbourne Road, Toorak.
FRIEDMAN, HARRY, M.B., B.S., 1923 (Univ. Melbourne), 82, Madeline Street, Carlton.
HYLTON, REX, M.B., B.S., 1923 (Univ. Melbourne), c.o. Zinc Corporation, Broken Hill, New South Wales.
PRYDE, DONALD, M.B., B.S., 1923 (Univ. Melbourne), 58, Brunel Street, East Malvern.
RICHARDS, ERIC ALEXANDER, M.B., B.S., 1923 (Univ. Melbourne), 218, Ascot Street, Ballaarat.
SCHWARTZ, JOSEPH, M.B., B.S., 1923 (Univ. Melbourne), 368, Lygon Street, East Brunswick.
THOMAS, ALFRED STRICKLAND, M.B. *et* Ch.M., 1923 (Univ. Sydney), Homœopathic Hospital, Melbourne.
WOODS, BRIAN ROSSE, M.B., B.S., 1923 (Univ. Melbourne), Ryrie Street, Geelong.

Additional Diplomas Registered.

GALBRAITH, JAMES BIGGAM DOUGLAS, M.D., 1923 (Glasg).
KELLAWAY, CHARLES HALLILEY, M.D., 1913, M.S. 1915 (Univ. Melbourne), M.R.C.P., 1922 (Lond.).

Names of Deceased Practitioners Removed from the Register.

BIRD, EDWIN JEFFREY.
DEANE, CHARLES MASLEN.
SCANTLEBURY, GEORGE JAMES.
TUTHILL, JOHN.

Medical Appointments.

THE undermentioned have been authorized by the Board of Health of New South Wales as Inspectors under section 50 of the *Cattle Slaughtering and Diseased Animals and Meat Act, 1902*: DR. JOHN BYRNE (B.M.A., at Gundagai; DR. R. R. HATHERELL (B.M.A.), at Mittagong); DR. C. C. FINLAY (B.M.A.), at Sofala; DR. A. W. RAYMOND (B.M.A.), at Maclean; DR. H. H. SKEOCH (B.M.A.), at Dorrigo; DR. WILLIAM C. WOODS (B.M.A.), at Albury.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii.

DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES: Assistant Microbiologist.
ISISFORD DISTRICT HOSPITAL, QUEENSLAND: Medical Officer.
ROYAL HOSPITAL FOR WOMEN, SYDNEY: Vacancies for Lady Post-Graduates.
ST. VINCENT'S HOSPITAL, SYDNEY: Two Honorary Anæsthetists.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmain United Friendly Societies' Dispensary Friendly Society Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phœnix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Proprietary, Limited Mutual National Provident Club National Provident Association
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Institute Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Renmark Contract Practice Appointments in South Australia
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

OCT. 23.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.
OCT. 25.—South Australian Branch, B.M.A.: Branch.
OCT. 25.—Brisbane Hospital for Sick Children: Clinical Meeting.
OCT. 26.—New South Wales Branch, B.M.A.: Branch.
OCT. 26.—Queensland Branch, B.M.A.: Council.
NOV. 9.—New South Wales Branch, B.M.A.: Clinical Meeting.
NOV. 9.—Queensland Branch, B.M.A.: Council.
NOV. 9.—South Australian Branch, B.M.A.: Council.
NOV. 13.—New South Wales Branch, B.M.A.: Ethics Committee.
NOV. 14.—Victorian Branch, B.M.A.: Last Date for Nomination of Council; Election of Scrutineers.
NOV. 14.—Western Australian Branch, B.M.A.: Council.
NOV. 14.—Melbourne Pædiatric Society.
NOV. 20.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
NOV. 20.—Illawarra Suburbs Medical Association, New South Wales.
NOV. 21.—Victorian Branch, B.M.A.: Council; Nomination of Representative of Group on Council, London.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and book-sellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad *per annum* payable in advance.